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The *I.C.I. Magazine* is published for the interest of all who work in I.C.I., and its contents are contributed largely by people in I.C.I. It is edited by Henry Maxwell and printed at The Kynoch Press, Birmingham, and is published every month by Imperial Chemical Industries Limited, 26 Dover Street, London, W.1. Telephone: REGent 5067-8.

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The Editor is glad to consider articles for publication.
Payment will be made for accepted contributions.

OUR CONTRIBUTORS

DR. A. J. AMOR, who writes the second article in our series designed to help parents guide their children in the choice of careers, is Principal Medical Officer of I.C.I. After completing his medical studies at the end of the first world war, he joined the Mond Nickel Company at Swansea in 1925 as a full-time industrial medical officer. In 1942 he went to the Ministry of Supply to become their Chief Medical Officer, rejoining I.C.I. in 1946. Dr. Amor played rugger for Middlesex and still maintains his interest in the game. His other great enthusiasm is for flying, ever since the time when he served in the Royal Flying Corps during the first world war.

T. F. BROWN, who contributes an article on pigeons, is well known in Scotland for his success in showing Roller Tumblers. In fact he is an acknowledged authority on show pigeons and is in frequent demand as a judge. Second only to pigeons as his hobby comes jazz. "Brown's Merrymakers" is a popular dance band, and provides the music at many Ardeer Recreation Club dances. Mr. Brown works in the Research Department, Ardeer. He joined the Company in 1912.

GORDON LONG, who writes on "How I Gave Up Smoking," is the head of the Press Section of Central Publicity Department. He joined the Company in 1936, but was away during the war, when he fought both in the tanks and in the infantry, later serving on a special mission in Macedonia. His last article in the Magazine, "How I Lost My Hair," brought him a heavy fan mail from the fair sex, whose sympathy for his predicament ranged from condolence to hints of marriage. He is in fact a happily married man with two children and was only reminiscing about his bachelor days.

Should My Beco

THOSE of you who have read *Martin Chuzzlewit* may recall Dickens' description of the midwife-nurse of the mid-nineteenth century:

She was a fat old woman, this Mrs. Gamp, with a husky voice and a moist eye, which she had a remarkable power of turning up, and only showing the white of.

It is a long road from the Sairey Gamps of that period to present-day nursing, but while the standards of the midwife were low, the standards of the hospital nurse at that time were no higher. Some insight into the life and conditions which prevailed at that time in what is now one of the most modern and progressive hospitals in the country, the Radcliffe Infirmary at Oxford, may be gained by Dr. Charles Singer's description in his *Short History of Medicine*:

The salary of a nurse was £5 a year. One nurse only was the allowance for a ward of 17 patients. A nurse's day began at 6 a.m. The wards were cleaned until 7, when a bell was rung and each nurse had to bring down her ashes and sift them under the direction of the porter, who then gave her coal for the day. She took breakfast with the patients, who helped her, so far as they were able, with the ward work. At 2 p.m. she had her dinner. During the dinner the ward was left in charge of a patient. After dinner she took away a plate of meat and vegetables for her supper. For the night there was normally only one nurse for the whole hospital of 100 beds. There were no regular holidays, and the nurse was never allowed to leave the hospital before 6 p.m. The practice of nurses receiving gratuities from patients continued until 1870 and even beyond. Those patients who wished to secure a nurse's early attention for their dressings gave tips, and those who did not frequently had to wait.

Before considering the human and social importance of the nurse in our daily lives let us look—even if but briefly—at the reforms which have taken place in the last hundred years. Like all great social reforms, they originated as a result of the vision and courage of individuals, and the two great names which stand out prominently as the reformers of nursing are Elizabeth Fry and Florence Nightingale.

The former exercised her great influence through the care she showed for the outcasts, the gaol-birds and the

Daughter

me a Nurse?

By Dr. A. J. Amor

sick poor of her time. Her work impressed, among others, a German pastor from a small town named Kaiserworth near Dusseldorf who visited her, studied her work and realised the great need for the physical and spiritual care of the down-and-outs. He and his wife decided to devote the remainder of their lives to a similar mission in Germany. They established a small but organised body of women in their little township and arranged for them to be trained by the doctors in their neighbourhood, who taught them to perform, even if in an elementary way, the duties of nurses of modern times. These nurses became known as the Kaiserworth Deaconesses and they performed an important service in many parts of the world. Their duties were wide, for they not only nursed but taught, performed household duties, paid special attention to the care of sick children and attended to those convalescing from sickness.

It was to Kaiserworth that Florence Nightingale went for her training in nursing. There she studied among the deaconesses, whose manner, high moral character and sincerity profoundly impressed her. This training and knowledge stood her in good stead when she was invited to organise a nursing service for our troops during the Crimean War, when nursing services were non-existent and the medical services had almost completely broken down. It was to this battleground that she went with her team of thirty-eight experienced nurses—ten of whom were trained Roman Catholic Sisters—and laid the foundations of our present nursing system. At the end of the war she returned to England and established the first Training School and Home for Nurses at St. Thomas's Hospital. Her life will always be remembered for her high ideals and for the standards of competence and character which she expected in those who trained under her.

It must be remembered that medicine and surgery were at that time in their infancy. The days of anti-



septic surgery—the days of the carbolic spray—gave way to those of aseptic surgery; the crude methods of diagnosis have been supplanted by the use of highly specialised X-ray techniques and an ever-increasing range of biochemical methods, both in diagnosis and treatment.

The courses of training for a nurse are now laid down by the General Nursing Council, but before considering these those who are drawn towards this great calling of service to humanity must ask themselves several questions. The first and most important is: Do I like people—people of all ages, babies and children, the old and the young, the rich and the poor—and, if so, do I possess those qualities which will enable me to be patient, kind and tolerant with them during their periods of ill health as well as when they are healthy? It is as natural, for example, for a girl to love her dolls and to treat them as her children as it is for the boy to want to drive an engine. Some of us, indeed most of us, change as we grow older and become a little more experienced, and our childhood longings and fantasies disappear.



A nurse administering oxygen to a baby in a 'Perspex' oxygen tent

There is, however, in the great majority of girls the deep inborn characteristic of motherhood.

The second point which the prospective nurse must ask herself is: Do I like community life? Can I, for instance, live in a nurses' home and mix with other girls and women, share their pleasures and difficulties and in turn make my full contribution to the happiness and industry of the team with which I live and work?

And the third question is: Have I the capacity to learn the many interesting things relating to the structure and function of our bodies and to deal with people during their periods of sickness? Now this last question is one which perhaps at the moment you cannot answer, and we will return to it a little later.

Let us now consider what steps to take to qualify as a State Registered Nurse, for which the abbreviation is S.R.N. In the first place, the period of training occupies between three and four years and must be done in a school approved by the General Nursing Council. The schools are obviously attached to the larger hospitals, and an application to become a student should be addressed to the matron of the hospital where you would like to train.

Let us return for a moment to the third question, which you possibly found difficult to answer. If you were accepted by the matron for training, the first two or three months would be spent in a preliminary training school. This preliminary training is intended to give you and the hospital authorities the mutual opportunity of deciding whether you want to be a nurse and if you are really suitable. During this preliminary training you will have lectures and demonstrations dealing with the elements of nursing. You will learn some physiology and some anatomy and will pay visits to places of professional interest; and at the end of this preliminary training in the school you will be given further experience in the wards, where you will make contact with the patients.

If at the end of this period you are happy about your future and the hospital authorities feel that you will make a good nurse, then you sign an agreement and settle down to what is perhaps one of the most interesting courses that a woman can possibly follow. You will learn the clinical art, that is the bedside art, of nursing. You will spend some time in medical and surgical wards, in the out-patients' department, the casualty ward and

in the operating theatre. You will be taught the elements of medicine by the physicians; the basic principles of surgery by the surgeons and the wide field of nursing will be taught you by the sister tutors and the ward sisters. In fact, what happens is that you do a course comparable in some ways to that of the medical student, but in addition the emphasis is laid upon your work as a nurse.

Your progress in your work will be judged from time to time by examinations, the most important of which are the Preliminary and the Final State Examinations. The Preliminary can be taken roughly at the end of your first year of training and the Final at the end of three or four years of training, but you must be 21 years of age before you can sit for this Final examination. If you are successful, your name will go on the Register of Nurses, for you have now reached the stage where you are legally entitled to the term Nurse and may practise as a qualified nurse.

A number of student nurses may find the standard of the State Examination too high, and provision has been made for them to take a two-year course of training arranged on simpler lines. On satisfactory completion of this course they may become State-enrolled Assistant Nurses.

In general, the minimum age for entry is 18 years but candidates may be accepted up to the age of 30. A good general education up to School Certificate standard is a very desirable thing but not essential; a large number of girls decide to become nurses when still in school, and very often the question arises in their minds: What shall I do until I am old enough to begin my real training? In some parts of the country pre-nursing courses have been arranged, and sometimes the girl who is taking this pre-nursing course may be known as a cadet nurse. She will learn the elements of anatomy or structure, and of physiology or function, together with hygiene. Other ways of usefully occupying this waiting period may be to study mothercraft, nursery nursing, domestic science or even secretarial work; all or any of these will provide good training which will be of value in the years to come.

The nursing profession is one which the student can enter and can qualify for without the payment of fees. From the day of entry into the Preliminary Training School a training allowance of £200 a year is made; in the third year this rises to £225 a year; those who are resident in a nurses' home or have accommodation provided by the hospital pay £100 a year for their board and lodging.

The passing of the Final examination and registration as an S.R.N. is really the beginning of a life of useful social service of the greatest importance. Some nurses may have a liking for hospital work and may seek promotion as a Ward or Theatre Sister or may have the ability to seek and obtain administrative appointments. Others may seek the freedom and variety of home nursing as a District Nurse; others may wish to qualify as midwives. Some may have a deep interest in the preventive health services as Public Health Visitors or may wish to enter industry, where their knowledge and leadership can be especially used. For all of these, special courses and qualifications are available. A number of qualified nurses enter the Naval, Military, Air Force and Colonial Nursing Services, where they can perform useful work and, in addition, by means of travel, gain a wider knowledge of the world about them.

The prospective nurse may rightly ask what she may expect in the way of salary, and, although some salary ranges for nurses are under review, the following figures of total value of salary and emoluments per annum will give some idea of the rates paid at the present time—a far step from the days of the mid-nineteenth century!



Nurses attend operation in modern hospital

Hospital Appointments

Staff Nurse	£315- 415
Ward Sister	£375- 500
Sister Tutor	£380- 580
Assistant Matron (training school) ..	£400- 620
Matron (training school)	£410-1000

Midwifery Appointments

Staff Midwife	£240- 310
Matron of Maternity Hospital	£420- 825
District Midwife (S.R.N.)	£330- 435

(Plus £15 to £25 if employed near or in London)

District Nursing Appointments

After training (non-res.)	£300- 405
Supt. of County Nursing Assoc. (non-res.)	£405- 675

To those who think they will enjoy nursing, a word of advice. It is a profession in which hard work, tact, a deep understanding of human nature, and kindness are the outstanding requisites. Those who qualify will find they have entered one of the most honourable professions and one in which they are able to become leaders of men and women in an age in which individual leadership is of primary importance.

I.C.I. NEWS

THE CHAIRMAN RETURNS FROM HIS JOURNEY

The Chairman, Lord McGowan, landed at Southampton on 31st March upon the conclusion of a journey which had taken him from one end of Africa to the other and back again, and in which every day was more than fully occupied and the results of which have been highly successful. Leaving England just before Christmas, the Chairman first visited Egypt, where he was received by the King of Egypt, the Egyptian Prime Minister, and the British Ambassador, the Rt. Hon. Sir Ronald Campbell, G.C.M.G., C.B.

Having spent a fortnight in Egypt, the Chairman next proceeded to Mombasa, whence he took train to Nairobi, arriving there on 26th January. He spent about a fortnight in Kenya, during which time the Governor of Kenya, Major-General Sir Philip Mitchell, G.C.M.G., M.C., gave a dinner in the Chairman's honour, at which he was able also to meet the Governors of Uganda and Tanganyika.

But perhaps the highlight of this part of the tour was the

Chairman's visit to Lake Magadi, where he presented Long Service Awards to both the white and coloured members of the staff, and watched a strenuous game of football played by the coloured workpeople under the refreshing shade temperature of 107°. From here the Chairman proceeded down the coast to Lourenço Marques, from where he took train to Johannesburg. He spent a strenuous fortnight in the Rand capital, having a number of important discussions with Sir Ernest Oppenheimer, the chairman of A.E. & C.I. and of de Beers. From Johannesburg Lord McGowan proceeded to the Cape, where he was received by Dr. Malan, Prime Minister of the Union, as well as by Field-Marshal Smuts, embarking for home on the *Athlone Castle* on 17th March.

It is unfortunately impossible at the date of going to press to give fuller particulars of the Chairman's highly important and successful tour, but we hope to publish a fuller and more detailed account in the next issue of the *Magazine*.

French Subsidiary Celebrates Jubilee

S.A. Fermeture Eclair of Rouen, the French subsidiary company of Lightning Fasteners Ltd., celebrated its Silver Jubilee on 11th February. The opportunity was taken to adopt I.C.I.'s tradition of presenting old servants with Long Service Awards. Closely linked with Fermeture Eclair is the French company of Davey, Bickford Smith, whose factory is alongside that of Fermeture Eclair, and in fact several of the personnel act for both companies.

About 20 gold and 130 silver watches were awarded. Sir Arthur Smout represented I.C.I. at the ceremony and took part



Sir Arthur Smout presenting a gold watch to M. R. Clément, Managing Director of Fermeture Eclair

in the presentations. There were also present representatives of Lightning Fasteners Ltd. and its other overseas subsidiaries. The importance of the occasion was recognised by the presence of Jacques Chastellain, Minister of Public Works and Transport and deputy Mayor of Rouen, of Jean Mairey, Prefect of the Department of Seine-Inférieure, and of Mr. Neil, the English Consul.

Presentations of this kind are something of a novelty in French industry, and those responsible seized the opportunity to stage a ceremony as only a Frenchman can. One innovation which was new to an Englishman was the order of presentation, which started with those of 20 years' service and gradually worked up to a climax when the president of the two companies, M. Robert Hyde, received his award for a total of 59 years. The "Marseillaise" and "God Save the King" were played by the factory orchestra by way of prelude to a delicious luncheon served in the works canteen, and while the recipients of awards and guests took wine there followed a short series of addresses.

M. Hyde proposed the health of the distinguished guests. In reply M. Chastellain paid tribute to the progenitors of the Company and of the inventors of the principle of the Lightning Fastener, who had delivered so many husbands—not to mention the wives—from the thraldom of the lace and the hook and eye. As had the other speakers, he was happy to salute the team spirit which united the whole family within the firm, and he expressed the hope that the example of solidarity in a common task which the firm afforded might serve to inspire the whole nation in the rebuilding of their land.

After the banquet those who were to receive their awards gathered in another hall, surrounded by all the staff and workers of the firm. M. Hyde emphasised the spirit of friendship which underlay the occasion, and which the gift of the awards



Some of the French recipients of Long Service Awards

symbolised. M. Cochois, in the name of the personnel of the firm, returned thanks on their behalf, and the highlight of the proceedings was reached when it fell to Mme. Collas, doyenne of the women workers of Davey, Bickford Smith, to present his gold watch to M. Hyde in token of his long service, dating back to 1891.

Fermeture Eclair, which started its factory 25 years ago with a total staff of 50, is today able to muster no fewer than 800. All in I.C.I. will join in hoping that when its full jubilee comes to be commemorated the event may witness an expansion fully as notable as that which the present auspicious ceremony has commemorated, and that the existing ties which unite not only France and England but Fermeture Eclair with I.C.I. may remain as close and deeply valued then as they are today.

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Science Essay Prizes

I.C.I., in their capacity as publishers of the quarterly scientific review *Endeavour*, have offered the British Association 85 guineas to be awarded as prizes for essays on a scientific subject. The competition is restricted to people under 25 years of age on the 25th June, 1950, and three prizes will be given. The object of these prizes is to stimulate young scientific workers to take an interest in the work of the British Association and to raise the literary standard of scientific writing.

The subjects for the essays are as follows: (1) Modern Techniques in Astrophysics; (2) Phenomena at Low Temperatures; (3) The Literature of Science; (4) Radio-active Tracers; (5) Metallic Corrosion; (6) Macro-molecules; (7) The History and Significance of Common Salt; (8) The Scientific Method; (9) The Mechanism of Heredity; (10) The Biological Significance of Trace Elements; (11) Industrial Applications of Biology; (12) The Earth's Crust. The latest date for receipt of entries is 26th June.

General Chemicals Win First Aid Award

The third I.C.I. First Aid Competition, held at the Central Hall, Westminster, on 15th March, was won by the General Chemicals team (Gaskell-Marsh Works). The runners-up were Paints Division (Slough Works). The Lime Division team (South Central Workshops) was third. Eleven teams competed.

Sir Ewart Smith, Technical Director, presented the awards. He said the Company's first aid teams were to be congratulated on the fact that only 400 cases of sepsis had occurred out of the 160,000 accidents throughout the Company during the last year. Continued training was essential, and he expressed his appreciation of the good team spirit shown throughout the day and the



Sir Ewart Smith presents the I.C.I. First Aid Trophy to the Gaskell-Marsh team

keenness and energy which had obviously been put into the training.

The detailed results of the competition are:

Team	Team Test (200 pts.)	Individual Test (200 pts.)	Combined Tests (400 pts.)
General Chemicals (Gaskell-Marsh)	158	139½	297½
Paints (Slough) ..	145	124½	269½
Lime (South Central Workshops)	160	89	249
Metals (Waunarlwydd)	122	112½	234½
Billingham (Plastics) ..	111	111	222
Alkali (Wallerstone B Shift)	97	121½	218½
Salt (Middlesbrough) ..	122	94	216
Leathercloth (Hyde) ..	97	115½	212½
Plastics (Hillhouse) ..	104	101½	205½
Dyestuffs (Huddersfield)	69	97½	166½
Nobel (Roburite) ..	77	80½	157½

The Paints Division team was first in 1949 and the Buxton team first in 1948.

ALKALI DIVISION

Eisteddfod Successes for Winnington

Artistic and literary prizes were won by two members of the Maintenance Services Section at Winnington at the recent Northwich Eisteddfod.

In the Art Section Mr. H. Carter, a winner of three prizes in the 1949 competition, gained first place for his black-and-white drawing of Haddon Hall, Derbyshire, and a second prize for his water-colour of Ramore Head, N. Ireland. Mr. Carter is a member of the Northwich Arts Society and has exhibited pictures not only in Northwich but also in local exhibitions at Liverpool, Warrington and Runcorn. Landscapes are his speciality, and he spends most of his spare time at home and on his holidays drawing and painting.

Mr. F. E. Bellis was awarded first prize at the Eisteddfod for a short story with an Italian setting. During the war he spent three years in Italy, serving with the military police. At this time he was in constant touch with Italian civilians and particularly with members of the Italian Red Cross, around whom the story is woven. Mr. Bellis has been interested in writing, both prose and poetry, since his schooldays, and even in wartime upheavals his enthusiasm did not wane. While abroad in the

army he found time to continue with his writing and had several poems published in the *Northwich Chronicle*. On his travels he always kept a notebook handy for jotting down descriptions of interesting people, places and scenes which he came across, and from these notes he hopes to draw material for his future work.

County Rugby Cap

The distinction of playing in the Cheshire Rugby Team has been gained by a chemist in the Winnington Research Department, Mr. K. H. Jones. He played for Cheshire when they beat the East Midland Team at Birkenhead Park Rugby Ground by 5 points to nil.

Mr. Jones, who is a Greyhound and plays regularly for Winnington Park, is Cheshire's hooker. This is Cheshire's first win in the county championship final, and, indeed, their first appearance there. As far as is known, he is the first member of the Alkali Division to play for Cheshire for almost twenty years.

Gymnastic Teams Win

The gymnastic teams of the Division have recently had considerable successes. The junior team, after a hard-fought battle, won the final of the Neish Shield Boys' Championship on 18th March against Warrington Borough Gym and the Vulcan Institute Juniors. The senior team won the semi-final of the Liverpool and District Competition against the Vulcan Institute Senior Team on 7th March at Earlstown by a clear margin of 64 points and look forward with keenness and optimism to the final clash against St. Michael's of Liverpool.

Gymnasium work has been a feature of the Alkali Division for many years, and in 1934, under the tutorship of Mr. J. T. Roberts, training was started for display work and has continued, with the exception of the war years, to the present time. Last year four displays were given by the senior team at local functions, and two from this class, W. Watkin and J. K. Birch, qualified at Manchester for the Intermediate Diploma of the Amateur Gymnastic Association.

BILLINGHAM DIVISION

Ironworker as County Cricketer

Mr. Harold Stephenson, a sheet iron worker at Billingham, left the employment of the Sheet Iron Shop on 15th March to resume professional cricket for the 1950 season. He is a wicket-keeper for Somerset and a member of the M.C.C.

Apart from a break of eighteen months in 1948-9, Harold Stephenson has been at Billingham for fourteen years, starting there as an apprentice sheet iron worker in 1936. Before joining Somerset C.C.C. in 1948 he played with the Synthonia First XI for three seasons. During this time he played for one season with Durham County, with whom he had a batting average of 32·5. Last year he established a record for Somerset wicket-keepers with 40 catches and 43 stumpings for the season.

The M.C.C. have invited him to play for them in their opening match of the 1950 season against Yorkshire.

Rescue Award

An R.S.P.C.A. certificate has been awarded to Mr. Sam Davies, tradesman's mate at Dowlais, who at considerable personal risk succeeded in rescuing a pony which had fallen down a deep hole. A keeper of hens, pigs, and show dogs, his love for animals is well known.

DYESTUFFS DIVISION

An Unusual Hobby

One of the problems of retirement, to have an absorbing interest, has been solved in an unusual way by Mr. Maurice Crane, a Long Service pensioner of Dyestuffs Division. To make your work your hobby is perhaps not the wisest thing to do, since it does not provide the necessary mental relaxation. Mr. Crane, however, has done the reverse.

Since his retirement three years ago he has started to make



Mr. Maurice Crane builds a model filter press

models of the chemical plant he operated many years ago at Blackley Works. To provide the necessary balance between work and play he does his own gardening and goes fruit-picking on a farm in summer.

The model filter press shown in the illustration took him three months to make. It is made entirely of wood and was designed from memory. The tiny press-taps at the bottom of each frame can be turned on and off; the press-plates and frames have each been made separately, and they can all be taken out and examined. The only tools he uses are a knife, file, fretsaw and a small hand drill. Mr. Crane has made other models not connected with his work—he is at present making a shop—but it is nice to know that there are many other pieces of equipment in a dyestuffs factory, from colour vats to drying stoves, on which he can exercise his model-making ingenuity in future years.

Mr. Crane started work at Levinstein Ltd. in 1906 at a wage of 17s. 4½d. a week. In those days shift rotation was the exception rather than the rule, and he spent over twelve years on night work. In 1932 he was transferred to the Research Department as a laboratory cleaner until his retirement.

Musical Triumph at Blackley

A remarkable musical performance was created by two sections of the I.C.I. (Blackley) Recreation Club—the Ladies' Choir and the Blackley Orchestra—when they combined forces to give their first joint choral and orchestral concert on 27th March.

The orchestra, which has twenty-seven instruments, has been playing regularly for over three years, and through the hard work of the conductor Mr. Cyril Gossage, has now developed considerable talent. The ladies' choir of eighteen voices, which was formed only eighteen months ago under its conductor Mrs. Dorothy Lockett, has progressed very rapidly since its beginning. They gave a public performance earlier in March with Mr. Reginald Foort, the B.R.C. organist.

George Ainley Prize

The George Ainley Prize (formerly known as the Apprentices Prize), which is awarded annually by the Engineering Works Foremen's Association, was shared this year by Mr. P. F. Russell, an instrument apprentice, and Mr. A. P. Tomlinson, an electrical apprentice.

The award is given to the engineering apprentice who has the highest number of marks at the Huddersfield Technical College, combined with the best practical performance in the factory. Its name was changed this year to the George Ainley Prize, as a memorial to Mr. G. Ainley, a foreman in the Engineering Department who was drowned during the evacuation from Dunkirk. He was the only foreman at Huddersfield who lost his life in the war.

The prize consists of vouchers to the value of £5 which can be spent by the winner on books or instruments to assist him in his studies. This year the generally high standard of the apprentices' work set the judges a most difficult task, and it was finally decided that the prize would have to be shared.

METALS DIVISION

Signal Successes

The Radio and Television Society at Witton has no intention of being behind the times. This was evident from the display of televisions built by members and jointly by the section on view at their recent exhibition, which is the first they have held. The exhibits also included radio equipment and various calibrating and measuring instruments.

This flourishing society, formed in 1947 with a membership of about twenty, now has nearly ninety members. Lectures or visits are arranged monthly, while a fortnightly series of classes for beginners during the last two winters has attracted enthusiastic support from those who want to increase their knowledge. A small workshop with a good range of test equipment is available for the use of members and is open every Monday from 6 p.m.

The attention of many members is now focused on television, and a fair number are building sets. A club television set was built by four members in about ten days and is now undergoing final adjustments. It will be used for demonstration and instruction purposes.

First prize at the exhibition went to Mr. Ansell (Artistic) for a television set. Mr. Ansell took up radio less than two years ago. Mr. Wykes (Ammunition Technical Section), an "old hand," took second prize with his quality amplifier and radio feeder unit. Third award went to Mr. Forrest (Research), another "old hand," for driver stages and power amplifier for a 150-watt amateur-band transmitter. Mr. Wheeler (Electricians), a member of the Beginners' Class, was placed fourth with a two-valve A.C. mains midget receiver.

Strong-man Apprentice

An apprentice blacksmith at Landore Works, 19-year-old Peter Heale, is already showing signs that he will live up to the tradition of his calling. A member of the Manseltown (Swansea) physical culture and weight-lifting club, he recently gained the title "Mr. Glamorgan" in the Welsh National Physical Culture Association contest held at Cardiff.

Amal in America

Among the exhibitors at the New York Motor Show are Amal Ltd., who are displaying examples of their motor-cycle carburettors for the first time in the U.S.A. The show has been organised to encourage the sale of British cars and motor-cycles in the United States, and the Amal exhibit is being shown on the stand of their agents, the Indian Sales Corporation.

To the American motor-cyclist the Amal carburettor presents a fresh conception in design and is exciting much interest.

NOBEL DIVISION

Royal Institute of Chemistry Visit

Members of the Royal Institute of Chemistry visited Ardeer Factory as guests of the Nobel Division on 1st April after their anniversary meetings in Edinburgh and Glasgow. They were

welcomed by the chairman, Dr. J. W. McDavid, and then set off in groups to tour Ardeer. They inspected the Misk mechanised blasting unit, the industrial nitrocellulose department, the safety fuse department and also a special demonstration at the testing station.

International Rugby Cap Honour

One of the Ardeer Recreation Club football players, Mr. John Smith, has had the honour of playing in the recent Junior International Rugby match between Scotland and Ireland. He plays right half-back and is a sturdy, keen player who runs and works for the full 90 minutes. Besides being a determined defender he has the cool head that manages to open out play.

Works Car's Fine Performance

A remarkable record of trouble-free running has been established by a Bowhouse Works car. The Bowhouse 10 h.p. Ford car FXH 18, a 1938 model, has clocked up a total mileage of over 160,000, of which the present engine has done over 25,000 miles without any repairs. The previous engine did 36,000 miles without a repair.

This excellent performance is a tribute to the care of Owen Gourlay, the man who drives the car.

Simultaneous Draughts

Twenty silent, pensive men sat at twenty green baize-covered tables in Ardeer Recreation Hall on Saturday, 11th March. They were playing a simultaneous game of draughts against the British champion, Mr. James Marshall, who engaged one opponent after the other as he walked from table to table.

It was a remarkable display of swift thought and keen decision which gave the champion victory in 13 matches. The other 7 ended in draws, three Ardeer men being among those who achieved this distinction. The opponents were men of all ages, the youngest, who put up a very fine game, being a boy of 13.

Cock Robin's Fate

The sad fate of a cock robin is related by the staff of the Sabulite canteen.

A certain cock robin visited Sabulite canteen during the winter to feast on delicious scraps placed out for him by a sympathetic kitchen staff. It happened that a mouse also called at the canteen, although he was not received with gifts. Indeed, a trap was baited for him one Friday evening and on the following Monday morning the trap held a victim.

It was the cock robin—poor Cock Robin. Lucky mouse!

PLASTICS DIVISION

Foreman to Swim Channel

Mr. Sam Rocket, a Wandsworth foreman, has been accepted as one of the twenty entrants for the open world Channel-swimming event to be held in August of this year. Over seventy of the world's greatest long-distance swimmers applied for entry.

For many years past Sam Rocket has been a water-polo player of outstanding merit and is, in fact, the only man to have held county badges for five counties, namely Dorsetshire, Hampshire, Lancashire, Hertfordshire and Middlesex B. His training has been going on for some months past under the guidance of Mr. E. H. Temme, who is one of the few people to have swum the Channel both ways. A few weeks ago he successfully completed a fifteen-hour continuous swimming session during which he covered approximately twenty-two miles.

The final hardening up for the big event is to be carried out at Dover and his trainer Mr. Temme is very confident of his pupil's chances. "There is no doubt," he says, "that Sam is a swimmer above the average, with a tremendous amount of grit



Mr. Sam Rocket

and determination. I cannot, of course, guarantee that he will swim the Channel, because a Channel swimmer has not only got to have swimming strength and physical resistance against cold, but what is perhaps more important, a very large slice of luck. I am certain, however, that Sam is going to put up a very good show, and if he wins this race he will be the greatest athletic figure of the world this year."

The race is being organised by the *Daily Mail* and £200 will be given to each entrant who makes the crossing. Training costs are in the region of £250, however, so unless Sam Rocket is successful his "holiday" will be an expensive one. Some of the entrants are being supported by towns.

With entries coming from the five continents the race is arousing universal interest, and broadcast commentaries will keep the world informed of the swimmers' progress. The B.B.C. Television Service is planning to follow the race by tug and autogiro, and it is hoped to give viewers a "waterside" seat. Newsreel cameras will also screen the event for cinema audiences.

SALT DIVISION

A Unique Vessel

One of the Salt Division's river craft *Herald of Peace*, built in 1877, had acquired the distinction of being the only ship still in service with a vee-twin marine steam engine. This was stated recently by Mr. G. Watkins of Bristol, who has made a close study of marine engines, on a recent visit to the Winsford Works.

A connoisseur in matters relating to ships and their engines, Mr. Watkins was impressed by what he saw, and has written enthusiastically to the Works about Salt Division's craft. "In these days of diesel engines," Mr. Watkins wrote, "the steam-driven Weaver salt craft of I.C.I. are a pleasing reminder of the steam freshwater types not often seen nowadays."

The *Herald of Peace* was built by J. Thompson, Northwich, and her engines were made by Watts Bros., Liverpool. She is 84 ft. long with a 20 ft. beam, and she has a loaded draft of 8 ft. The forty miles trip from Winsford to Liverpool with a cargo of 100 tons of salt, which she makes regularly in about six hours, is noteworthy for the fact that it involves clearing no fewer than six locks.

Fifty-one Years' Service

The remarkable total of 51 years' service has been completed by Mr. G. R. Royle, who retired on 3rd March. He began work as an assistant timekeeper at Cheshire Works in 1899 and was transferred in the following year to the bag store-room at the same works, where, with the exception of the period of his war service, he was continuously employed until his retirement.

Our correspondent writes: "Although bag-storekeeping is recognised as an exacting job, Dick Royle was always one of those people, indispensable to a thriving community, who could be relied on to do a bit extra. Besides his normal work, he carried out the duties of a steward of the Workers' Friendly Society for ten years and served as a Works First-Aid man for forty years. For twelve months he was a works councillor.

"During his leisure time Dick Royle's abundant energy consistently flows into socially useful channels. In recognition of his 30 years' service as secretary of the Winsford Hospital Saturday Committee, whose purpose was to raise funds for the local infirmary, he was appointed a governor and a vice-president of the infirmary, a position which he held until the Government relieved that body of its responsibility. From 1910 to 1920 he was a member of the Winsford and District Ambulance Brigade, and for some years he was also a member of the Winsford Guildhall Management Committee and secretary of the Winsford branch of the N.S.P.C.C."

WILTON WORKS

Playing Fields for Wilton

About forty acres of land at the north-west corner of the Wilton site have been reserved by the management for the Wilton Works Recreation Club's permanent playing fields. The expenditure of an initial sum of money to enable work to be started has already been approved. Work has begun on the construction of a cricket pitch, on the outfield of which a hockey pitch will be marked out. Given favourable growing conditions, these pitches should be ready for play in 1951.

The club has prepared a plan for a possible scheme of development of the area, with cricket, hockey, football, bowls and tennis facilities and, of course, a clubhouse. These proposals, however, have not yet been finally approved.

Drama League Festival

A success in the first round of the British Drama League National Festival was gained by the Drama Section with the one-act play *A Bride in Samaria*. Our team gained first place after competing against the leading teams in N.E. Yorkshire.

I.C.I. (INDIA)

Bombay Cricket Success

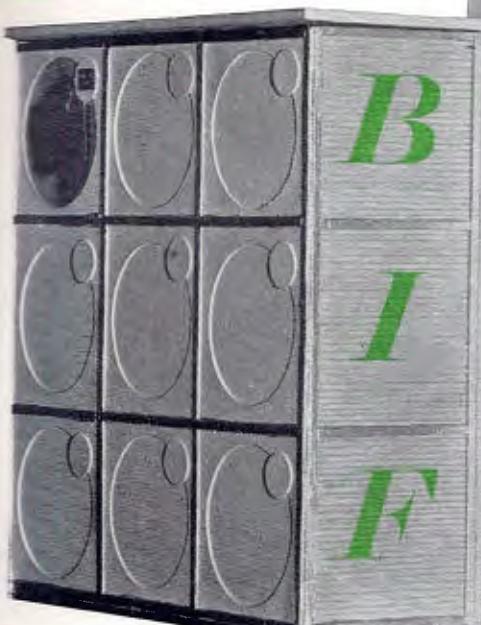
The Times of India Cricket Shield (Junior Division), open to all business houses in Bombay, has been won by the team from I.C.I. (India) Bombay office.

Cricket is Bombay's major sport. From six to sixty, and from the governor to the butcher's boy—they all play cricket. In this respect I.C.I. (India) is no exception. The tournament is played in two divisions: the senior, which has a number of very strong teams, several of which include Indian Test players; and the junior division for those not so well talented. I.C.I. (India) Ltd. have been regular competitors in the junior division.

In the course of the competition I.C.I. players have put up several outstanding performances, of which the following are worthy of note. *1st Round:* N. S. Sakroo, captain of the team, took 6 wickets for 29 runs (including a hat-trick). *Quarter Finals:* N. S. Achadwalla scored 233 runs, which was the highest score this year in the competition. *Finals:* Raghumal Jamnadas scored 67 not out and 105 in the second innings; J. N. Carvalho took 5 wickets for 2 runs in the first innings.

These performances greatly assisted in winning the trophy. Next year the I.C.I. team will compete in the senior division.

1950



THE extensive and highly complex overseas organisation which I.C.I. has built up is the theme of the Company's main stand at this year's British Industries Fair which opens on 8th May at Earl's Court and Olympia in London, and at Castle Bromwich in Birmingham. The central exhibit is a huge map of the world, 25 feet long by 15 feet high, showing the Head Offices, Sub-offices and factories of all the I.C.I. Overseas Companies, Subsidiary Companies and Agencies. Beside this is a large panel carrying photographs of the principals of these companies and a further panel showing their various head office addresses. Those sections of these two panels which are relevant to any one country can be illuminated jointly so that visitors can see at a glance the broad outline of the Company's organisation in any particular country. Behind all this there are more detailed maps of the six countries (Africa, Australia, Argentina, Brazil, India and Pakistan, and Canada) in which the Company's interests are strongest. They show how intimately I.C.I. Overseas Companies are bound up with the economic life of the country in which they operate.

This exhibit has been designed and built to illustrate the world-wide character of I.C.I.'s overseas organisation, which handles exports from Britain to the value of more than £41,000,000 C.I.F. per annum, and this at a time when there are many economic and financial impediments to international trade. As its name implies, the promotion of trade interests within the British Empire was from the outset a special objective of those who founded the Company. With major manufacturing interests in nine overseas countries, smaller production units in five others, selling companies in all of these countries and eighteen more, not to mention selling offices for I.C.I.'s 12,000 products in every country except Russia and some of her satellites, the familiar

I.C.I. roundel may well be said to have circled the globe.

The foundations of this world-wide organisation had been laid down long before the formation of I.C.I. in 1926, for the four main companies in the I.C.I. merger—British Dyestuffs Corporation Ltd., Brunner, Mond & Co. Ltd., Nobel Industries Ltd., and the United Alkali Co. Ltd.—had already set up their own organisations in overseas countries.

The chemical market has always been an arena of intense competition, and the struggle which the constituent companies had begun was prosecuted with even greater vigour when I.C.I. came into being. Without an overseas selling organisation such as I.C.I. inherited and developed, British chemicals could never have forced an entry into many of the foreign markets where they do good business today. Far less could they in pre-war days have held their gains against powerful and, not infrequently, state-subsidised competitors. Indeed, the measure of I.C.I.'s successes against state-aided competition affords a moral which is peculiarly significant at the present moment. Many instances of success may be quoted, notably the struggle between I.C.I. and European and other interests to win a place for British nitrogen in world markets; the battle for alkali and fertilizer markets in the late 1930's, which I.C.I. fought and won, principally against the rapidly developing Government-backed Japanese chemical industry; and the fight to sell British dyestuffs in India and China, where, until I.C.I. forced an entry by first-class quality allied to technical service of the highest order, the Germans had enjoyed almost complete predominance.

Chemicals are not the easiest products to sell at any time, for, as a rule, their acceptance value depends to a marked degree on the reputation of the producing firm and also on the standard of technical after-sales service which it offers to consumers. A dyer, for example, is not

interested in a dyestuff as such, but in the effect that he can obtain with it. In other words, having bought the dyestuff from a reputable source, he still needs the help of a technical specialist to demonstrate—perhaps in the dyer's own works—how the desired effect is to be produced.

That is one reason why the export of chemicals can never be undertaken according to the simple formula of "dumping" surpluses abroad, whenever such may exist. A permanent sales and service organisation on the spot is a *sine qua non* of chemical export business. I.C.I. has had no alternative, therefore, but to develop its own overseas organisation, and has already invested a sum of no less than £33,000,000 of its shareholders' money to bring this to its present state of development.

Most of I.C.I.'s manufacturing and selling companies overseas have grown out of small selling offices. As the volume of sales and the number and range of I.C.I. products increased, it became necessary to expand some of these offices and to raise their status into overseas selling *companies*. Whereas the selling offices normally only handled I.C.I. products, the I.C.I. selling companies act as sales agents for the goods of other manufacturers, as well as for those of I.C.I. This they do for two reasons:

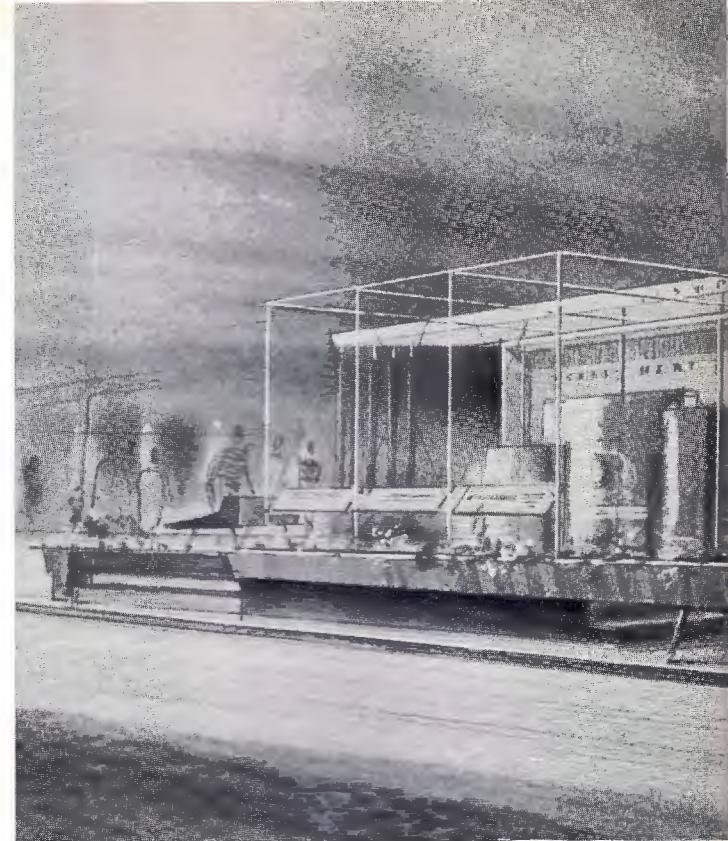
1. Because I.C.I.'s policy is to make available to their customers a complete range of the goods they require.
2. Because other manufacturers, impressed by the efficiency of I.C.I.'s selling methods, are glad to use I.C.I.'s organisation to sell for them.

Today no fewer than 179 companies are using I.C.I.'s overseas sales organisation.

The status of a selling company is often no more than an intermediate stage in the development of I.C.I. interests abroad, the final development being the transformation of a selling company into a fully equipped manufacturing plus selling concern. The choice of the right moment at which to make this change often proves a problem of considerable difficulty. For example, though market information may suggest that a steadily growing demand for certain manufactures exists, the success of the venture will naturally also be influenced by the availability of ample sources of raw materials and of sufficient labour of the right kind. Moreover, it is a prerequisite of success that the project shall find favour with the Government of the country concerned.

Where all the conditions look to be favourable and it is simply a question of manufacturing at once or waiting until the demand has grown to such an extent as to ensure a ready sale for all materials produced, I.C.I.'s policy is not to wait but to keep a shade ahead of demand whenever possible.

So it comes about that I.C.I. is engaged today in the production of chemical and allied products in many countries abroad. The overseas companies are all supported by technical agreements which give them rights to I.C.I. processes and patents. That is to say, they enjoy the technological backing of the parent company and its vast experience to guide them in all their operations. The significant fact is that, wherever I.C.I. has established a company abroad, it enjoys excellent relations with the Government and nationals and also the goodwill of local competitors in the country in question. This is

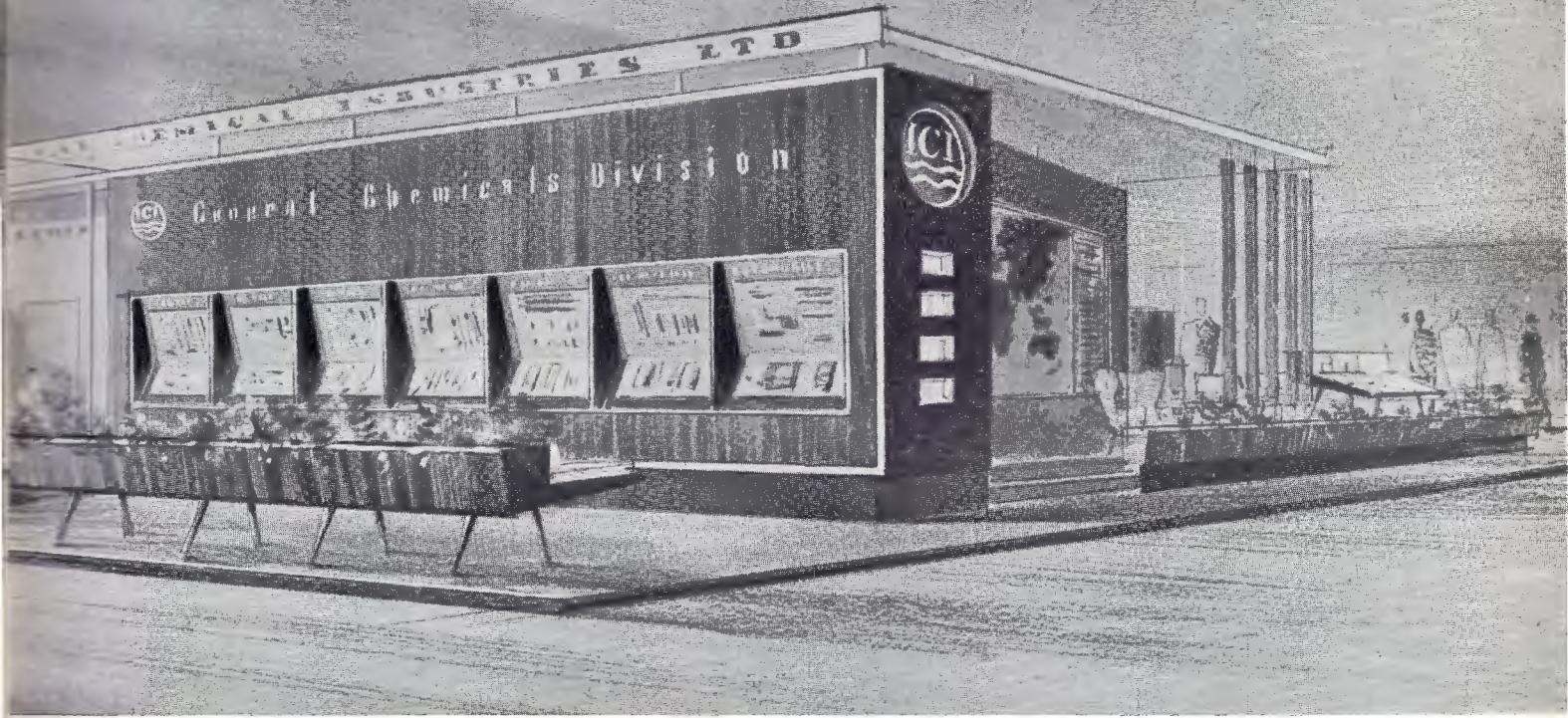


indeed most noticeable in those countries whose national consciousness is most sensitive. Here is no accident of fortune. There are good and sufficient reasons for this satisfactory state of affairs.

It is I.C.I.'s firm policy not only to employ citizens of the countries in which its overseas companies operate, but also to encourage them to qualify for high executive positions. Secondly, the investment of local capital in many I.C.I. overseas companies has given the citizens of the country concerned a stake in the ownership, just as their presence on the board of directors has given them a voice in control. For example, while I.C.I. holds 64.5% of the controlling capital of Imperial Chemical Industries of Australia and New Zealand Ltd., the remainder is in the hands of Australians; and of the eleven members of the board of directors seven are permanently resident in Australia.

Visitors from overseas to the B.I.F. will also be interested in the Divisional stands. The Plastics Division has two stands at the Fair. At Earl's Court the entire range of I.C.I. plastics will be shown, the emphasis being on major applications in the lighting and electrical fields and in the transportation, chemical, building, fancy goods and packaging industries. Demonstrations of the injection moulding of 'Alkathene' will be given on the stand. A photographic feature will focus attention on the new phenolic powder plant at Wilton, the most modern of its kind in the world, which will be in full production later this year.

Their Birmingham stand will be of special interest to the engineering trade. Examples will be shown of engineering components moulded of nylon, and of plastic gland packings and tank linings. 'Alkathene' will be shown in various forms, including a new 'Alkathene' foil for use as an anti-corrosion membrane for floors, 'Alkathene' tube for water service lines, and 'Alkathene'



The General Chemicals Division stand at Castle Bromwich

film for the protective packaging of tools and precision instruments.

General Chemicals Division are featuring their heat-treatment service for molten salt baths and their comprehensive metal degreasing service.

I.C.(P) are displaying the new anti-leprosy drug 'Avlosulfon.' Extensive clinical trials with 'Avlosulfon' have been carried out, and its administration in tablet form has proved safe and effective in the treatment of both the lepromatous and the tuberculoid forms of leprosy. The drug has the advantage that it is well absorbed and slowly excreted, so that only a small amount is needed to establish and maintain a blood level comparable with that obtained by other sulphones. An aspect of great practical importance in the control of leprosy is the cost of treatment, since therapy is a long-term project, often of several years' duration. It is here that 'Avlosulfon' has a decided advantage, for it only costs about one-twentieth as much as the more complex sulphones.

On their stand in the textiles section at Earl's Court Lightning Fasteners Ltd. are featuring a new range of exceptionally light weight slide fasteners. These are made from a special extremely strong light alloy of about the same weight as aluminium. The metal fastener teeth are anodised and colour-dyed to match the tapes on which they are mounted, the colour being virtually indestructible. These fasteners have been developed in new sizes and designs specially for the gown, mantle and women's dress trade throughout the world. They are exceptionally neat in appearance, and of such light weight that they do not distort even the sheerest materials.

Another newly developed 'Lightning' fastener which will be exhibited at the 1950 B.I.F. will be the improved 'Lightning' trouser fastener—a fastener with

exceptional flexibility and fitted with an entirely new type of slider. A third item is the *lightweight* open-ended (completely separable) fastener, which will be offered to meet the very extensive demand for a completely separable fastener applicable to light and medium-weight materials, and for such other uses as loose linings for rainproof coats and overcoats.

As in previous years, there will be general displays of the principal products of the Metals Division—sheet, strip, tubes, rod, extrusions and wire, in copper and aluminium and thin alloys.

A working laboratory unit will illustrate the use of spectrographic methods for the analytical control of products. A spectrograph and associated equipment will be installed and used for analysing copper and aluminium alloys by procedures which are regularly employed in all of the larger factories of the Division. This exhibit has been chosen because spectrographic technique demonstrate clearly the careful supervision which is applied to all the Division's products and processes. Photographs will be shown of other equipment of a specialised character for research and control purposes.

Another feature will be a half-section of a double purlin roof built up from channels, angles and corrugated sheet in aluminium alloys. This particular type of roof was designed for use in tropical climates and can be applied to any building structure, whether brick, stone or mud. This exhibit will also include a profile section of a secret-fix type of roof employing aluminium alloy sheet and extrusions.

A further display will demonstrate by model and photographs the method of laying 'Kuterlon' copper tubes for underground water supplies by means of the mole drainage plough. Incorporated in the display will be a specially drawn $\frac{3}{4}$ in. diameter 'Kuterlon' tube 120 ft. long.

'LISSAPOL N'

The Cleaner of the Century

PROBABLY the best known of the 'Lissapol' range of synthetic detergents produced at the Huddersfield Works of Dyestuffs Division is 'Lissapol N.'

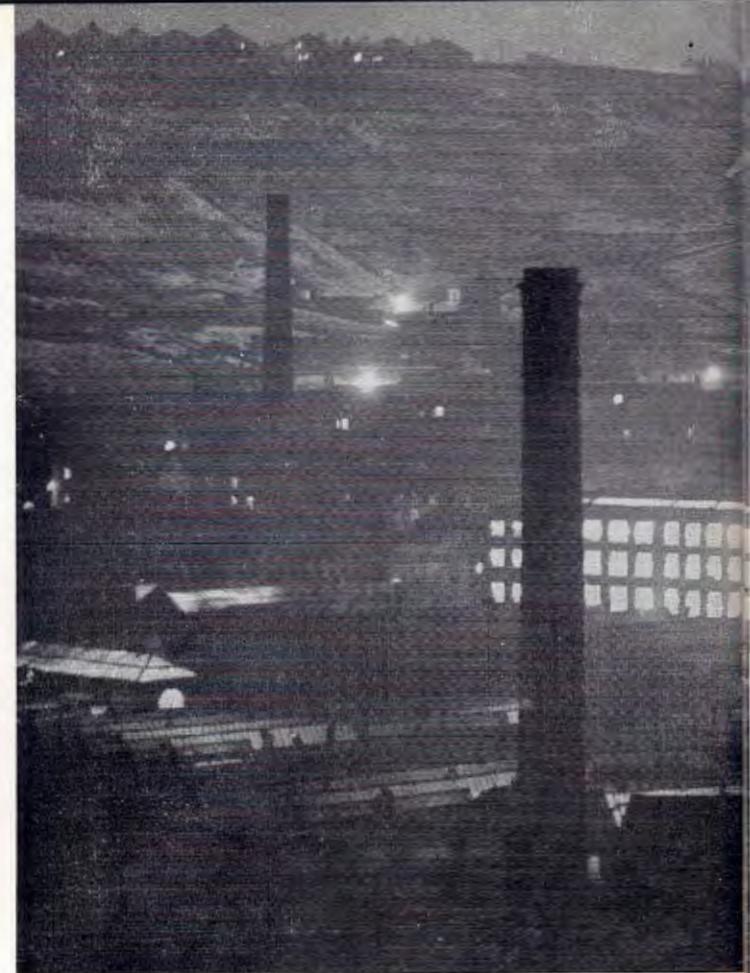
As generally understood, the term "synthetic detergent" means an organic chemical compound which has good cleaning properties but which is not ordinary soap. Ordinary soap—made from fats or fatty acids and alkalis—is, of course, a detergent (the word means simply "cleansing agent"), but has all manner of disadvantages in domestic and industrial uses. For instance, everyone is familiar with the difficulties of obtaining a good lather when soap is used in hard water; again, soap has a habit of forming scum, and it will not always deal satisfactorily with grease and fats. Nor can soap be easily and thoroughly rinsed from textile materials.

For a long time before 1930 chemists had been trying to make detergents which did not have these various defects. Most of this early research work was closely associated with important developments in the manufacture and applications of dyestuffs, because it was found that one way of improving the application and control of dyes was by the use of certain specialised chemicals, frequently known as wetting or dispersing agents. It was very soon realised that many of these wetting agents had detergent properties and could be used for cleansing purposes in ways similar to those in which soap is used. The development and use of these detergents in the dyestuffs industry and the fact that the processes for their manufacture are in general similar to those for dyestuffs manufacture explains how it is that such apparently unrelated products as dyes and detergents are now made by the same I.C.I. Division.

The chemists who worked on the development of these various new detergents were guided and assisted in their labours by physicists investigating the purely theoretical aspects of wetting and detergency. "Wetting," or the bringing of water or aqueous solutions into intimate contact with other substances, is of course very closely bound up with the subject of detergency. A detergent is only one of a large and increasing number of products which all come under the general classification of surface-active agents. These include wetting agents, emulsifying agents and dispersing agents, whose properties and uses frequently overlap to a very large extent.

They have been given the name of surface-active agents because they all depend for their efficiency on their ability to weaken the interfaces or areas of contact existing between substances normally repellent to one another. Everyone is familiar, for example, with the way in which a greasy rag repels water. Soapy water, however, especially when hot, overcomes this antipathy by virtue of the surface-active properties of the soap dissolved in it, the greasy rag becoming wet through and the grease and dirt gradually being removed from it.

Among the outstanding advantages of synthetic detergents as a group are their effectiveness in saline solutions and hard water and their high efficiency even in cold water. 'Lissapol N,' Dyestuffs Division's newest and most versatile detergent, is exceptionally effective in dealing with grease and dirt, and it is not surprising that, for instance, paper manufacturers, who use large quantities of cotton and linen rags (many of them greasy and dirty as purchased from the rag merchants), should be finding increasing use for 'Lissapol N' in the preliminary treatment of rags.



Shortly before the second world war the value of synthetic detergents for home use was beginning to be recognised, but it was not until 1942 that synthetic detergents began to be produced on a large scale in this country. It was primarily the wartime shortage of fats, and in consequence the scarcity of soap, which really established the new detergents. They were used widely in the services and in hospitals and for domestic purposes. When 'Lissapol N' was first put on the market during the war it was reserved, by Government order, not for the wool industry for which it had initially been developed, but for the laundry trade, at that time struggling to cope with a greatly increased volume of work from both Service and civilian sources while hampered by diminishing supplies of soap.

So far the bulk of 'Lissapol N' produced has been sold in the home market, either to industrial users or, under the trade name of a distributor, as a domestic cleanser. For domestic chores it makes the hardest water feel as soft as silk and carries it right under the dirt into the fabric. It is also a great help when stripping old wallpaper. With the aid of 'Lissapol N' the housewife can face spring-cleaning or a heavy day's washing knowing that her task has been lightened.

Even when the present shortage of fats has ended, the very special properties of 'Lissapol N' will ensure a considerable and steady demand. There are important applications for which it is infinitely better-fitted than are soaps or detergents of what is known as the sulphated fatty alcohol class. 'Lissapol N' is, in fact, one of the important and increasing number of products made specially by Dyestuffs Division for particular jobs—"tailor-made" chemicals designed for use in specific industrial processes. In the case of 'Lissapol N' the specific use is the scouring of wool. But, as the pictures on these pages show, it now has a wide and important range of uses that make it the cleaner of the century.



The textile industry, where the mills are in production round the clock as in the picture above, is by far the largest consumer of 'Lissapol N.' The number of processes in which 'Lissapol N' is used—as wetter, spreader, detergent, lubricant for carding and spinning, stain remover, or as a dyeing and printing assistant—place it among the industry's essential chemicals.



In the leather industry 'Lissapol N,' under the name of 'Corilene DG,' is widely used for removing natural grease from sheepskin pelts. After the grease has been washed out the skins are ready for tanning and dyeing. Knowledge and experience of how 'Lissapol N' can best be used in the treatment of sheepskin and other pelts have been gained in research with the experimental equipment (above) at Blackley.

Dust suppression in coal mines is vital to the health of coal-miners. Water is sprayed to lay the dust during the drilling, wet cutting, loading and transporting of coal from the workings; to wash down the galleries before lime-washing; and in the final cleaning of the coal itself. In all of these operations, especially underground, addition of 'Lissapol N' to the water does the job more effectively and makes the water go further.

LEFT

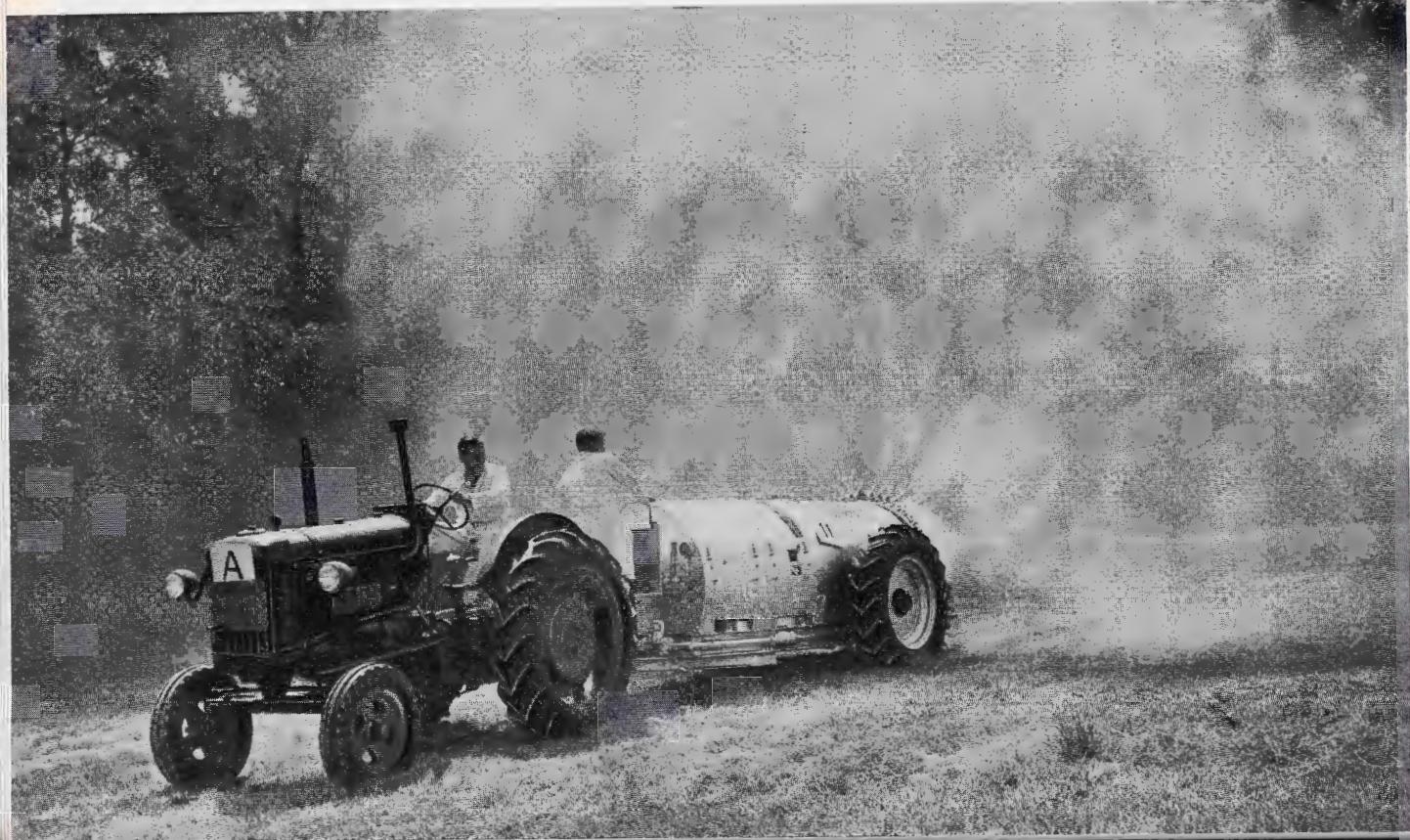
The best-quality papers are made from rags and other fibrous raw materials. The bulk of these rags are usually old and very dirty. Before pulping they must be thoroughly washed—boiled in weak caustic soda—so that no grease, dirt or impurity remains in them. If 10–20 lb. of 'Lissapol N' for every ton of rags is put into the boiler with the caustic soda, not a single fibre will escape cleansing.

(Photo: Wiggins Teape & Co. Ltd.)

BETWEEN

The effectiveness of spraying against pests and diseases is greatly enhanced if the spray is evenly spread over the surface of the plants. For this reason liquid sprays are usually combined with a "wetter and spreader"—the very thing for which 'Lissapol N' is ideal.

(Photo: Plant Protection Ltd.)





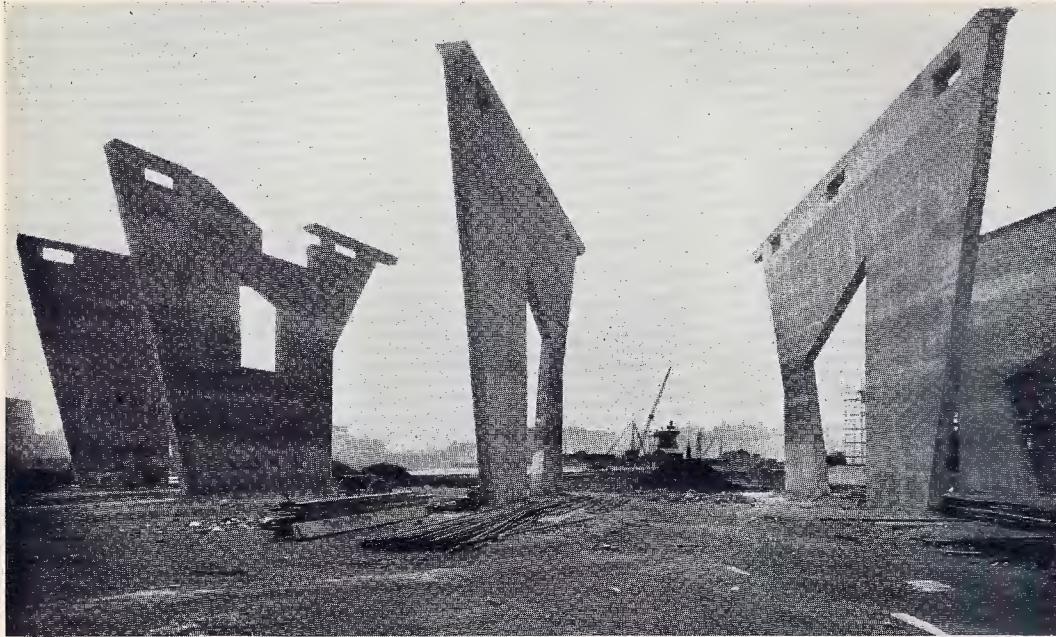
'Lissapol N' is employed in the production of oil. The petroleum industry finds it a most useful chemical for adding to solutions pumped into oil wells and to the water used for secondary oil recovery in wells. And, as a cutting lubricant in engineering work and machining, even an oil emulsion can be made more "oily"—more penetrating and free-flowing—by the addition of a small percentage of 'Lissapol N.'

Several municipal authorities have recently begun to clean up their monuments. In London, especially, many shining faces have emerged from their years-old coating of grime. A notable example is Cleopatra's Needle on the Embankment, which has been given a thorough spring-cleaning. As in several other instances, 'Lissapol N' was used to get the stone clean.



RIGHT

Sound, serviceable pottery depends mainly on three things—thorough grinding of the clays, skilful mixing and filter-pressing, and expert firing. In mixing and grinding 'Lissapol N' ensures a close and even texture, so that every pot in the batch will be identical.



Dry cement and water mix more readily when helped by 'Lissapol N.' The water wets the small particles more quickly and gives a better bond with fewer air-pockets or bubbles. On large constructional work, where strength is essential, this close knitting of the ingredients of concrete is most important. Besides the increased loads that perfectly mixed concrete will bear, ravages of the weather are more easily withstood.



Periodical cleaning out of fuel-oil tanks in motor vessels and tankers is a job in which 'Lissapol N' penetrates into the sludge and makes it easier to remove. Desludging in this way eliminates much dirty hand labour and cuts valuable hours from the time taken to clean up and replenish the tanks.

HOW I GAVE UP SMOKING

By GORDON LONG

ALTHOUGH I belong to what is sometimes referred to as the Bulldog Breed, I must say, in confidence, that I have sometimes felt myself lacking in that dogged resolution, that rugged perseverance, which is said to characterise the race. Not so my wife, who was a smoker, too, until quite recently. But the night Sir Stafford—or was it Mr. Dalton?—told us on the wireless that we would henceforth pay 3s. 6d. for a packet of twenty, my wife, who is not really politically minded at all, leaped at the loudspeaker and bawled into it: "No, I won't! I give it up, here and now!" And she did, too, by Jove! You will rightly conclude, therefore, that my wife is a woman of spirit. I'd like to have seen Sir Stafford face her when he said it, instead of leaving her to me. . . .

At the time I considered her action in giving up smoking very meritorious. But later I discovered that I had been manœuvred into a rather delicate position. Every time I lit a cigarette a silent rebuke seemed to flash into her eyes, as if she were saying, "You know we cannot afford to smoke. I've given it up. Why don't you?" Things began to go wrong at home, and there was no peace to be found there, even by the innocent.

It wasn't much better at the office. My nearest workmate had given up smoking some weeks previously, but he was not big enough to carry his success. It had gone to his head. The result was an insufferable patronage of others who retained the habit. Every time he passed he would poke his pencil about amid the butts on my ash-tray and remark with a leer: "How many today, eh? Ten more nails in the jolly old coffin! Ha ha!" and more of the same. Not an original thought, mark you, in any of it, and the whole delivered in a tone that was quite unbearable.

Going home at night took me out of the frying pan into the fire. I would be met with tales of what the children needed, and tales of what the woman of the house needed if each and all were not soon to be in rags and the laughing-stock of the neighbourhood. The strain at last became intolerable, and I swore a great oath (for I, too, was in the Army) that I would give up smoking. In coming to this decision I was greatly fortified by the words of no less an authority than Mark Twain, who said that he had given up smoking hundreds of times, and had always found it easy.

Now, there are several methods of giving up or gradually eliminating the habit, and I propose to outline the principal ones to you. They are as follows:

- (1) The littler-and-littler system, whereby you taper the habit off until it disappears altogether.
- (2) The holder-and-razor-blade system. By this method you cut each cigarette into two or three portions, using a safety razor blade for the purpose, the idea being that each cigarette goes further. I had to abandon this system after my wife had cut her fingers

I was fortified by the words of no less an authority than Mark Twain





The result was insufferable . . .

badly while searching in my jacket pocket for her thimble.

- (3) The roll-your-own system. This is just a sickening waste of time, and the tobacco falls out at the ends and sticks in your teeth.
- (4) The toolshed system (this is my own invention).
- (5) The cut-it-out-altogether or Crippsian system.

The last was recommended to me by my nearest colleague. I had asked him how he had conquered the habit. Was it by (1) or (3), or by (1) and (2) in combination?

I thought my asking him politely, my taking the trouble to consult him at all, would appeal to his ego and elicit a kindly interest. Not a bit of it. "I don't know what you're talking about," he said; "but (wagging his finger) I'll tell you this. If you're looking for an easy way out, take it from me that there isn't any! There's only one way to give up smoking, and that is *to give up smoking!*" I never asked him again. That sort of attitude helps nobody.

As it happens, I did once go without a cigarette for practically a whole morning and afternoon. But I felt

ghastly. This was clearly not the way to do it. So one night I announced my irrevocable decision to adopt (1), and to reduce consumption at once from twenty to five cigarettes per day. I made this portentous announcement to the family, which I had had specially paraded to hear it. One and all received it calmly but without, I thought, any great show of enthusiasm. "Once I have habituated myself to five," said I, "I will proceed to reduce consumption to four per day, and so on, until a state of total abstention has been reached." I still think this is a watertight scheme, and cannot understand where I failed in it.

However, my wife was sceptical from the beginning. "Who," she asked, "is going to ration you?" I said with a dignity befitting the Head of the House that I really thought I was old enough to do that for myself. My wife agreed that I was certainly old enough, goodness knows. Well, eventually I had to agree to hand over my daily allowance to a trustworthy colleague in the office, who would ration me and hand back the balance (if any) at night. At week-ends my wife would act in the same capacity.

It would be best to draw an iron curtain round what followed. I got through the better part of the first day of my "cure" on two cigarettes. Then I was called out on a job and met a companionable man with whom I smoked a further two cigarettes—they were his—in quick succession. I was ashamed of myself immediately afterwards, of course, and depressed beyond description at the prospect of a whole evening at home on one cigarette. However, on the way home I decided that the two I had smoked while out with that man on the job could scarcely be said to count. After all, I could easily have done without them. I had smoked them not from desire but from the needs of social comradeship and courtesy. My conscience, which belays me heavily on occasions, was quite clear on this point, so I had three for the evening.

The following day was worse—much worse. Neither courtesy nor the calls of comradeship put me under any actual obligation to smoke, yet I got through four again. I smoked my last one as soon as I reached home, and then sat in abject misery all evening until near bedtime, when I found an ancient butt in an ashtray. From this I was able to extract four puffs, locking myself in the lavatory for the purpose and blowing the smoke out of the open window. For the rest of the evening I sat contemplating my wife as she knitted savagely on. Potiphar's wife, I thought, was not more pitiless.



Two "O.P.'s" in quick succession



I adopted the "toolshed system"

Well, of course, I broke down. She drove me to it. In consequence I adopted what I have called "the toolshed system." I concealed a full packet of twenty under a pile of flower-pots in the shed at the end of the garden. When, therefore, the pangs became too keen, I could always dash down there for another draw. I took to spending long hours in the toolshed every week-end, crouching on a grassbox in a corner and listening for footsteps. Meantime, for want of attention, the garden slowly transformed itself into a wilderness. Eventually, after I had potted everything that could be potted, sharpened every tool that could be sharpened, and entirely repainted the inside of the shed (a wholly useless procedure), I realised that no credible reason remained to explain my life in the toolshed. I therefore made a clean breast of it to my wife, and added that I would be grateful if she would reserve any observations that occurred to her.

It was she who started me on the next phase of the cure. She had read somewhere that the scientific approach to the problem was, first, to note the times and occasions when the patient craved for a cigarette. Then she handed me a chart, ready prepared, which showed that I always lit a cigarette (a) if handed a cup of "elevenses," (b) after a meal, (c) if I sat down to read a newspaper, (d) if I ate a sweet, (e) if I had a drink.

Now, the nitwit who thought up this plan had said that the way to cut out the smoking was to eliminate the

conditions that caused an upsurge of the craving. My wife therefore announced that sweet-eating, elevenses, newspaper-reading, and drinking were banned at weekends. As for smoking after meals, I would rise from the table as soon as a meal was concluded, clear away, wash and wipe up, and put away. By that time the crisis would have passed, and I would be safe from myself until the next meal.

I endured this calculated cruelty for two weeks, then something seemed to snap. The end of my endurance had been reached.

I began putting everything away in the wrong places. I left hot water taps running. I dropped things more often than I needed to have done. One day, when we were down to three breakfast cups (two without handles), the drying cloth was suddenly snatched from my hands, and a tremulous female voice cried: "For goodness sake, SMOKE!" I have neither washed up nor gone without my cigarettes since.

Now, you may say that this article is misrepresentation. You may say I undertook to tell you how to give up smoking, and I have not. But I have performed an even greater service to readers of the *Magazine*. I have saved them from a course of action which is of no benefit to humanity.

Consider the sort of people that abstention from tobacco breeds. There's enough unhappiness in the world, in all conscience, without your adding to it. How many murderers are non-smokers, I wonder? How many wife-beaters? How many snatchers of kids' sweets?

While I cough my way through shaving in the bathroom of a morning, and while the varnish on the window sill splutters under the cigarette that I have inadvertently left burning there, my wife goes about the household tasks with a song in her heart.

And don't call me slave to the habit. A man is only weak when he cannot abandon what he wants to abandon. For my part, I now want to smoke. I have made up my mind to smoke. I am inflexibly determined to smoke, for everybody's sake—Sir Stafford's included.



Information Notes

A VISIT TO LEIPZIG

Mr. J. B. Seed, of the Engineering Department of Ardeer, contributes the following note on his recent visit to the Leipzig Fair. He was accompanied by Dr. Campbell of the 'Ardil' Department. The object of their visit was to keep in touch with the latest Continental developments in textile machinery.

We left Northolt at 11 a.m. on Tuesday, 7th March. Landing conditions were poor at Leipzig and a beam approach was made at 2.30 p.m. Mounted police on the airfield perimeter ensured control of those arriving and leaving.

We had with us Western marks and travellers' cheques and a small amount in English notes. The Western marks were found to be unusable and had to be declared and taken out again. It appeared that the only permitted currency for foreigners was "Messe-Schecks" at 9.35 to the pound, and we obtained these in the city. The lodging allotted to us was well out in the suburbs of Leipzig at Lindenau, but until we had negotiated the exchange of Messe-Schecks into Eastern marks our landlady would not accept the money. We found that this was so in all parts and that with the exception of the five "permitted" restaurants and the one "permitted" shop, only black-market dealing was possible, since one mark Messe-Scheck was worth at least five Eastern marks (£1 will buy about a hundred Eastern marks). On complaining to the exchange officials we were regarded as more than a little stupid for not having promptly entered the black market.

Wednesday and Thursday were spent visiting the Technical and General Fairs. The exhibits were generally plentiful and of good quality in furniture and textiles, but nothing really original of interest was seen. The quality of machines, castings, etc., appeared to lack finish. Bicycles, prams and similar things were surprisingly poor. The Russian exhibits, beginning with a fifteen-foot-high floodlighted statue of Stalin with a mosaic of Moscow for background, seemed intended to overawe with the omnipotence of the U.S.S.R.

What really impressed us more than the Fair were the conditions in Leipzig. Approximately half of the buildings in the city are still lying in heaps of rubble. An offensive smell pervades the whole place, and every street is covered with thick mud, giving an appearance of complete squalor. We were informed by certain individuals that one-third of the inhabitants have tuberculosis, which supported our own observations. These same people were afraid to speak openly in case of Communist informers listening. They said that 10% of the people had Communist sympathies and were helping the Russians, and that they themselves would never get jobs unless they joined one of the party organisations—"But what can you do when you are hungry? We are fenced in." Their view of the present state of Britain and their half-belief in its decline was interesting—"But you have lost India!"

Propaganda interspersed with music blared from loudspeakers in the public square all day. The object, as we were told, is to urge the people to demand union with Western Germany, then Russia could control the lot. Tea and coffee are virtually unobtainable. The soap ration per person for one month is a piece 2 in. square by $\frac{1}{4}$ in. thick of a greyish grainy substance, for all purposes. Our lodgings could only provide a morning cup of ersatz coffee and one slice of very black bread.

No dogs or cats and very few small children were seen in

Leipzig. Numerous Russian officers were seen, but we were told that the soldiers were temporarily in barracks to give the visitors a good impression.

We left Leipzig at 12.30 on Friday by bus for Berlin, since a combination of Russian inscrutability and the weather had decided that planes would not leave Leipzig that day. We reached Berlin-Schönefeld at 4 p.m. where the Polish plane had been held since 11 a.m. Four Russian control points had been passed on the journey, and it was noticed that all the decorative swastikas had been broken out of the autobahn bridges. Most of these bridges had been accurately bombed at the crossings.

At 5.15 permission to take off was finally received and we reached Northolt at 9.25. General relief was apparent on the return journey.

ARNOLD, HOFFMAN & CO. INC.

It was announced on 7th March that I.C.I. had made an offer to acquire a controlling interest in Arnold, Hoffman & Co. Inc., chemical manufacturers of Providence, Rhode Island, U.S.A. This offer has now been accepted, and it is proposed to appoint the following I.C.I. representatives to the board:

Mr. S. P. Chambers (I.C.I. Finance Director)

Mr. J. L. S. Steel (I.C.I. Development Director)

Mr. E. J. Barnsley (President of I.C.I. (New York) Ltd.)

Dr. J. Avery (Production Director of Dyestuffs)

Mr. E. Herbertson (Overseas Sales Manager, Dyestuffs Division)

The following note on the background to the negotiations is contributed by Mr. M. G. Tate, head of the American Department.

The story of the Arnold, Hoffman negotiations begins with the mission, led by Mr. J. L. S. Steel, which visited the United



This cartoon is reproduced from the house magazine of Arnold, Hoffman & Co. Inc.

States in February 1949 to make a preliminary survey of the situation arising out of the cancellation of the I.C.I./du Pont Patents and Processes Agreement. This cancellation left I.C.I. without any ready means of utilising its inventions in the United States. The main conclusions of this mission were:

- (a) That the type of manufacture offering the greatest promise in the future and the one in which I.C.I. could confidently be expected to make a substantial contribution lay in the manufacture of the more complicated forms of organic chemicals.
- (b) That the establishment of manufacture by I.C.I. alone would be a lengthy, difficult and expensive undertaking.
- (c) That the best method of starting without undue delay was to acquire a controlling interest in an existing corporation.

The mission also came to the conclusion that the corporation which seemed by far the most suitable for I.C.I.'s purpose was a concern manufacturing textile auxiliaries and a small range of dyestuffs, namely Arnold, Hoffman & Co. Inc. Discussions were accordingly opened with Mr. E. H. Arnold, the president of the company, and after protracted negotiations agreement was reached that I.C.I. should offer to purchase a minimum of 66½ and a maximum of 70% of the fully paid common stock of Arnold, Hoffman & Co. on the terms indicated in the press release.

Arnold, Hoffman & Co. is an old-established New England concern, its predecessors having first been formed in 1815. It was originally a merchanting organisation, and it was not until 1900 that it entered into manufacture by the purchase of a plant at Dighton, Mass., making materials for sizing, softening and finishing textile fabrics. The company has grown steadily since the present management took control in 1937 and today has a turnover of more than \$7 million, and in 1948 made a net profit, after taxes, of \$218,000. The profits for 1949 are expected to be of the same order.

The company operates three plants at Dighton, Mass.; Charlotte, North Carolina; and Cincinnati, Ohio. Dighton is the main plant, occupying about 75 acres of land, and it is at that location that the dyestuffs and synthetics departments are situated. The head office is at Providence, R.I., and branch offices are maintained at Boston, New York, Philadelphia, Cincinnati and Charlotte.

The company is organised into three divisions, and the following extract from a prospectus issued in March last year gives details of its manufacturing activities:

ANCHOR DIVISION (Dighton, Massachusetts)

Dextrine Department. This department is equipped to process all types of starches, such as wheat, corn, potato, tapioca and sago, into products used largely in printing gums, adhesives and sizes for the textile industry predominantly.

Dye Department. This department manufactures alizarine, vat and acetate type dyestuffs, particularly those of a special nature and on which there is a minimum competition. These products are manufactured only in the north at the present time.

Size Department. This department manufactures sulphonated oils and fats, wetting agents and printing gums, for use in many fields, including the leather, paper and textile industries, and special cooling agents and similar chemicals for the machine-tool industry. These operations are conducted both at the Dighton and Charlotte plants.

Synthetic Department. In this department, at Dighton, synthetic resins, plasticisers, organic esters and cationic softeners are produced. These products are used in the plastic, cosmetic, textile and leather industries. This department houses some of the company's most modern, technical and highly developed equipment.

CHARLOTTE DIVISION (Charlotte, N.C.)

This division operates the Charlotte plant, serving the Southern textile industry. Products made are chiefly sold to

the textile trade in the South, although export shipments are also made through Charleston and Baltimore.

HARKNESS AND COWING DIVISION (Cincinnati, Ohio)

This former Cincinnati concern, acquired in 1948, produces stearic acid, red oil and glycerine. These products are used in the pharmaceutical, plastics, textile, leather and allied industries.

In addition to selling products of its own manufacture the company has a Brokerage Department which handles a wide variety of chemicals on a resale or merchanting basis.

Arnold, Hoffman's entry into the dyestuffs manufacturing field is of fairly recent date, and up to the present its output of dyestuffs has been sold either to other dyestuffs manufacturers in the United States or through agents for export. The company has, however, now begun to market its dyestuffs through its own selling organisation in the U.S., and with the excellent contacts which it has with the textile industry through its activities in the textile auxiliary field it has an organisation easily adapted to the sale of dyestuffs and should have little difficulty in breaking into the market.

At the present time Arnold, Hoffman is organised only to handle the sale or manufacture of dyestuffs and organic chemicals of the type produced by the Dyestuffs Division, and it is in that direction that the immediate expansion of the company is expected as a result of the acquisition by I.C.I. of a controlling interest. Nevertheless it is I.C.I.'s intention that Arnold, Hoffman & Co. should be looked upon as the nucleus of an I.C.I. organisation in the United States which may in the future embrace the activities of any I.C.I. Division if circumstances warrant.

A NEW SEED DRESSING

By Dr. R. C. Woodward

Dr. R. C. Woodward, M.A., B.Sc., Ph.D., who contributes the following note on the development of seed dressings, with particular reference to the recent advances made in this subject by Plant Protection Ltd. jointly with I.C.I., was formerly Research Officer in Mycology at Oxford University. He is now Overseas Development Manager of Plant Protection Ltd.

Among agricultural chemicals for the protection of crop plants, seed dressings—or more specifically seed disinfectants—occupy a very important place. By far the most important type of seed dressing is that based on organo-mercurials. In this class alone it is estimated that there may be a world turnover, outside the U.S.A., of not less than £900,000.

Even so, only a beginning has been made; they will be demanded on a much wider scale for cereals, maize, groundnuts, sugar-cane (setts), etc., in many countries, including India, Pakistan, South America, the Middle East, China and Africa. They are already extensively used in the United Kingdom, Western Europe, Australasia, Canada and the U.S.A. The low price of seed disinfectants, the very high returns to the cultivator, and their simplicity of application assure a future world consumption of a considerable magnitude. Furthermore, their greater use is of paramount importance in alleviating the world food shortage.

In the course of research carried out by I.C.I. on seed disinfectants a unique discovery was made during the war years. It was found that seed dressings could be used as carriers for soil insecticides. To explain, an insecticide so applied to seed is not intended to afford protection to the seed but to destroy insects in the soil, e.g. wireworm, which attack the young seedlings at a later stage. It is true that the insecticide could be effectively applied by broadcasting over the surface of the infested field, but the seed provides a much more convenient and less costly means of applying the soil insecticide. It avoids an extra operation and the cost of broadcasting the insecticide by hand or by a suitable agricultural distributor.

The use of this method of disinfecting soils with insecticides was only made possible by the discovery of the insecticidal properties of 'Gammexane' (the gamma isomer of benzene hexachloride). It was found that the quantity of this highly active insecticide required for the control of wireworm was only 1 oz. per acre. This quantity was so small that it could readily be applied as a powder on cereal seeds before they were sown, but it was further discovered that when so applied the 'Gammexane' lost little of its efficiency as a soil insecticide for the killing of wireworm. Furthermore, this small quantity could readily be incorporated in fungicidal seed dressings which have already found such a wide acceptance with farmers. The incorporation of 'Gammexane' gamma BHC in the fungicidal seed dressing has provided a dual-purpose product which is of great value wherever the joint control of seed-borne disease and wireworm is required. In Canada alone some eight million acres of valuable wheat-growing land are infested with wireworm, and such a product (marketed by Plant Protection Ltd. as 'Mergamma') can be simply, economically and effectively used to protect the wheat crop in these vast territories and increase yields.

As a contributor to our Company's sales and profits 'Mergamma' will be notable. Far more important is its potential value to the world's food production.

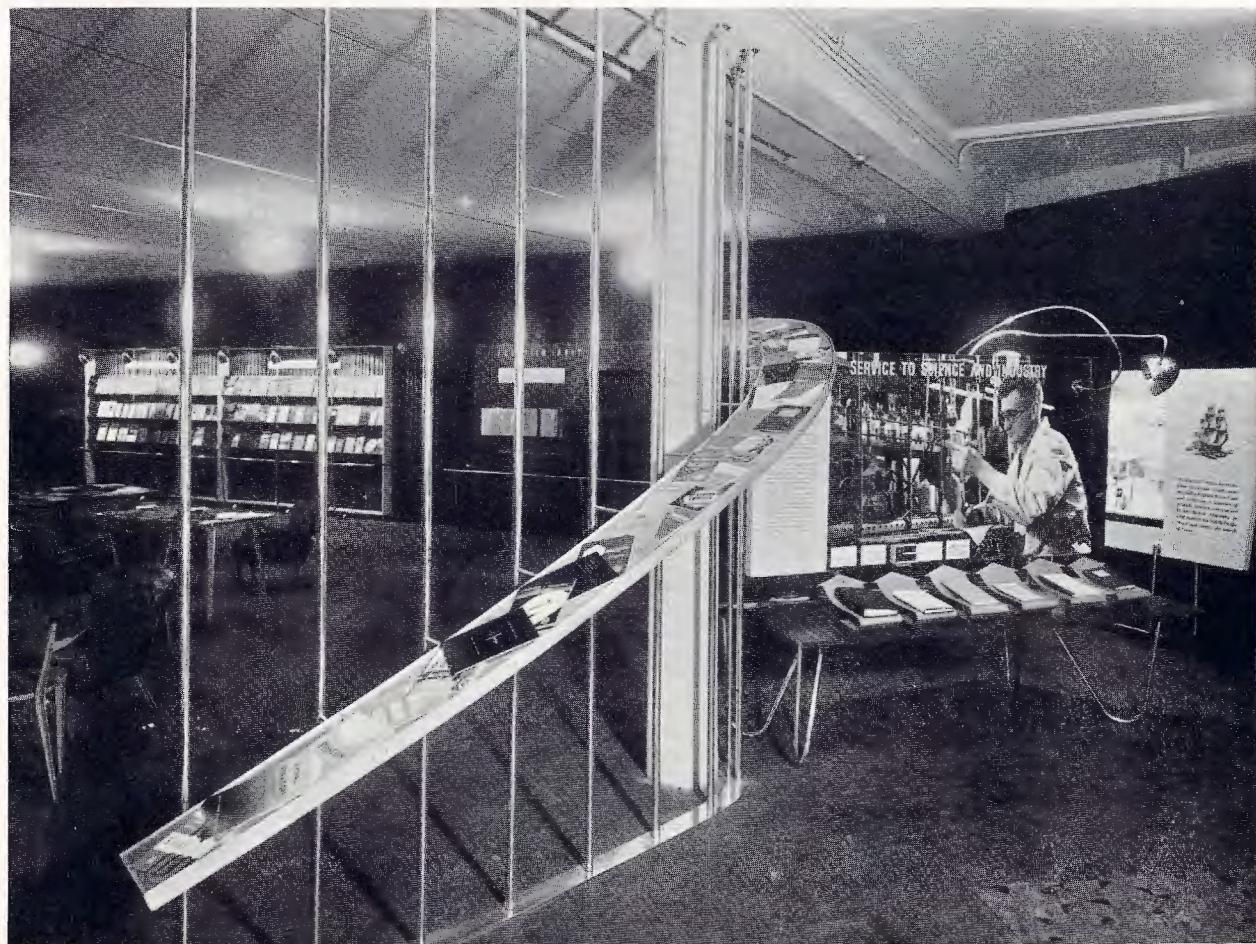
TRIBUTE TO I.C.I. RESEARCH

An exhibition of I.C.I. technical literature, originally organised primarily for the Head Office staff of the Company, was held at the Academy Hall, Oxford Street, London, during

the second week of March. The exhibition gave a vivid idea of the range and volume of this literature, which is of the order of two new publications every day. Commenting on this exhibition *The Statist* writes in its issue of 18th March under the heading "The Advance of Industry—I.C.I. as Public Servant":

"The claim is made, and none with close knowledge of the facts would deny its justification, that 'in scope and quality this steady flow of fresh information has no equivalent.' This by no means represents the sum of the I.C.I. activities in this respect. Members of its staff are responsible for over 300 papers a year on a very wide range of subjects, nearly all of which are given publicity through one medium or another. It would not be a sufficient indication of these activities to rely upon the guidance of principal headings alone; for many, if not most, of the subjects dealt with have several and sometimes many implications. Thus, if the lectures delivered by members of the Dyestuffs Division be taken for examples, it will be found that it is not merely the use of dyestuffs for industrial purposes that is discussed. Much that is said leads into problems associated with cancer, malaria and tuberculosis, or relates to insecticides or the making of scientific instruments. No less than £4 million annually is spent on research in various directions; it is the company's consistent practice to make the fruits of these enquiries known throughout the world.

"It is evident from facts such as those mentioned briefly above that the part which I.C.I. performs in helping forward the process of social evolution is an impressive one, as would, it need hardly be added, be also plain from the extent of its capitalisation and the number of its employees. This evolution



A general view of I.C.I. Technical Literature Exhibition

is not of a national character, although its most powerful expression is within the British Commonwealth. As has been stated already, the dissemination of ideas and practice by I.C.I. is world-wide; the aim is, in fact, to confer the maximum of benefit upon all humanity. The company rightly takes special pride in its quarterly review *Endeavour*, which is produced in English, German, Italian, French and Spanish, the policy of the distinguished editorial board being to contribute to the advance of science as a whole. It should be mentioned further that the company has been engaged for some years in the production of documentary films, covering medical, agricultural and industrial subjects. These films have been praised not only for their educational value but for their cinematic excellence also."

The article then goes on to mention some of the more recent products of I.C.I. research, including 'Kudampro,' the soft annealed copper strip for dampcourses; 'Alkathene' water tubing; 'Kuterlon' copper tubing; and the 'Dulux' finish produced by Paints Division. It also draws attention to the research involved in such an apparently simple subject as the purification of water by chloride of lime, and to the work which Paints Division is doing in analysing the structure of paints by means of an electron microscope capable of a total magnification as high as 50,000 times.

DOWN TO GROUND LEVEL

[*"We are now even producing suits 50 per cent of which are made from the much-maligned ground-nut."*]—Encouraging announcement from the President of the Chemical Society.]

That ground-nut, so often debated,
Has reached a new height of renown
If suits from its fibres, as stated,
Will shortly be seen on the town.
Though half of the fabric be woolly
One boon will perhaps not be lost—
Our hope will be high of a fully
Developed reduction in cost.

For man and the sheeplike creation
Have this much in common at least—
We both in our difficult station
Exist to be jolly well fleeced.
So man will be heard in high carol,
Most gaily his song will resound,
If the nut brings the price of apparel
A little bit nearer the ground.

So here's to the day when they dig out
New suitings on which we shall pounce,
And man in his jubilant rig-out
Will proudly and firmly announce:
"My attire in one sense may be cheapish,
But you cannot complain of the cut—
Though 50 per cent of me's sheepish,
I'm 50 per cent of a nut!"

LUCIO

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THE IODISATION OF SALT

Contributed by Salt Division

No doubt many will have read in the papers recently about the Government proposal to make the iodisation of household salt compulsory and some may wonder exactly what it is all about. Briefly, the proposal carries out a recommendation made by the Medical Research Council that in the interests of health a trace of iodine should be incorporated in domestic salt on a national scale to serve as a preventive against goitre or thyroid enlargement.

In order to understand the need for iodised salt a word or two should be said about the ailment which it is intended to prevent. The thyroid is a ductless gland situated in the front part of the neck just below the "Adam's apple." It requires

adequate supplies of iodine in order to function properly and plays a great part in regulating growth and the output of energy and also in controlling mental balance. Children born without thyroids, for instance, show very stunted growth and are nearly imbecile; they are known as cretins. The condition known as simple goitre denotes an enlargement of the thyroid due to iodine deficiency. The main symptoms are a swelling of the neck and often a tendency towards dry skin, scanty hair and a feeling of lassitude. The swelling in the neck can reach large and unsightly proportions, and while it is not itself a serious or killing disorder and the sufferer may remain apparently quite well, the widespread prevalence of goitre throughout the world is associated with general ill health.

The occurrence of goitre in this country has long been known and is more common than might be suspected. During an investigation made by the Goitre Sub-Committee set up by the Medical Research Council during the war, goitre was observed in many counties in England, Wales and Scotland, especially in the south-west in a belt extending from Cornwall to Oxfordshire, in the north-east in parts of Durham and Northumberland, and elsewhere. At one time it was particularly severe in Derbyshire—hence the term "Derbyshire neck" used to describe the disease. It was estimated that there were in England and Wales in 1944 some 500,000 cases of thyroid enlargement in persons of from 5 to 20 years of age. Although all these had not necessarily developed to the stage of actual goitre, which is more common in women than in men, the figure is high and represents over 1% of the population. The Sub-Committee recommended the compulsory iodisation of salt as a safeguard, and this was strongly supported by the Medical Research Council in a subsequent report.

As goitre is due to a lack of iodine in the diet it can be prevented by making good the deficiency. Why then iodised salt? The reason is because salt is an easy substance to iodise and its universal use in the home makes it a very convenient "carrier" to ensure that everyone gets a minute regular dose of iodine. It is interesting to note that the iodisation of salt is reported to have been first suggested over a century ago by a French investigator, J. B. Boussingault, working in South America. In more recent years the use of iodised salt has become firmly established in many countries in Europe and North and South America. In parts of Mexico and Brazil, for example, it is compulsory and in other countries it is officially recommended and definite standards are prescribed. There is no doubt that its adoption abroad has been followed by a definite fall in goitre incidence. Regular exports of iodised salt from Great Britain go to Australasia and Scandinavia.

British saltmakers have had proprietary brands of iodised salt on the market for years, but there was little demand for it despite publicity campaigns. An example is Salodine Table Salt manufactured by Salt Division.

The Government has now decided to give effect to the recommendation of the Medical Research Council in the assurance that it has received the fullest and most expert consideration and that there are no grounds for believing that the prolonged use of iodised salt might have deleterious effects.

The Food Standards Committee has recommended that all pre-packed domestic salt should eventually contain between 15–20 parts of iodine per million parts of salt, the iodine to be added in the form of either potassium or sodium iodide. All pre-packed free-running table salt should be iodised to this level within one year of the date of an appropriate Statutory Instrument and all other pre-packed domestic salt within two years of that date. A period of three months i.e. up to 30th June next, is allowed for anyone wishing to make representations in connection with the proposal. The Committee has also advised on matters relating to labelling and the use of moisture-resistant containers to minimise iodine loss in storage.

Iodised salt is indistinguishable in appearance and taste from plain salt and is suitable for all household uses. It seems certain that its universal adoption here should do much to remove goitrous tendencies and thus be beneficial to the nation's health.

GRASSLAND DEVELOPMENT

In a paper read to the Fertilizer Society in February, Mr. R. A. Hamilton, C.A.C. Home Development Director, gave some interesting information on the progress of I.C.I. grassland development. He explained that there are two schemes now in operation. One involves the co-operation of no fewer than 74 commercial farmers who co-operate with I.C.I. in recording the economic results of the application of fertilizers to grassland. This scheme began in 1947 and is now practically in full operation.

The other scheme relates to the three farms owned by I.C.I.—The Leaths, near Castle Douglas in the south-west of Scotland; Dairy House, near Middlewich in Cheshire; and Henley Manor, near Crewkerne in Somerset. Each of these farms, which are engaged largely in milk production, is divided as nearly as possible into two equal sections known as A and B. Each section is farmed as a separate farm, but both sections of each farm are under one management. These farms are now undertaking experiments to obtain more precise information, on a farm scale, on the economic value of nitrogen as a manure in grassland. For this purpose section A is supplied with nitrogen as fertilizer up to an average of 6-8 cwt. of 'Nitro-Chalk' per acre per annum. On section B no nitrogen as fertilizer is being applied to grassland except where it is considered necessary for establishment of a new ley. Both sections, however, are being adequately supplied with phosphate, potash and lime. These experiments were in full operation on Henley Manor during 1949, and will it is hoped be in full operation on the other two farms during this year.

In his paper Mr. Hamilton gives some of the preliminary conclusions which can be drawn tentatively from the scheme that is being worked in co-operation with commercial farmers. Perhaps the most valuable is the relative cheapness of silage in terms of starch equivalent and protein equivalent as compared with other feeds.

THEY KNOW THE ANSWERS!

Mr. A. R. Smith, who is in charge of the Intelligence Department at Head Office, has contributed the following account of the purpose and scope of this important service department.

The Head Office Intelligence Department is essentially a service rather than a functional department. In other words, it does not, like most other Head Office Departments, act as a co-ordinating link between corresponding departments in the Divisions, but exists solely to help other parts of I.C.I.: predominantly, but not exclusively, Head Office, by supplying information of a particular kind. Its reputation depends upon the success and speed with which it copes with a never-ending flow of enquiries.

In the Divisions intelligence work is most fully developed on the technical side, and so Intelligence Sections are frequently part of the Division research department. Head Office as a whole is concerned more with policy than with manufacture and its interests are therefore much less purely technical. The Intelligence Department in outlook and structure reflects this fact. Although the technical aspect is by no means absent, the department's predominant interest is in matters industrial, commercial, financial and economic. In the main it deals with published information on matters external to the Company but of interest to it.

In order to cover its activities adequately and expertly, the department is divided into separate, but of necessity overlapping sections. These are the library and the Bulletin, Charting, Companies, Economics, European, Statistics and Technical Index Sections.

Head Office Library has already been described in INFORMATION NOTES. It renders service in circulating journals and loaning books, mainly to Head Office departments; it also provides

a useful service to Division libraries by borrowing on their behalf scarce books from various London libraries.

The Bulletin Section is best known for the 'I.C.I. Information and Instruction Bulletin,' more familiarly, and we hope more affectionately, spoken of as 'Comic Cuts.' But just as important to the department itself are the Section's extensive files of cuttings from a wide range of newspapers and journals which form an indispensable part of the department's records.

Plans, maps, charts and graphs are the special interest of the Charting Section. Its work illustrates many reports prepared in Head Office departments and appears also in the current map of I.C.I. Division works and offices and in the main I.C.I. Organisation Charts.

The Companies Section is expert in knowledge of British and foreign companies in which I.C.I. is likely to be interested, either as competitor, customer or supplier. The Section studies their structure, management, interlinking and financial status, and is able to provide a centralised service of information of this kind for use by all sections of the Company. Its link with the Sales Regions, which possess more detailed information on I.C.I.'s customers, is extremely close.

The function of the Economics Section is to keep in touch with the ever-changing pattern of world economic happenings and trends and to provide information and informed opinion on them. In the main it deals with facts, but from time to time it strays into the dangerous field of economic prophecy, with no less, but perhaps with no more, success than economic prophets generally.

Chief exception to the general rule that the department is concerned with published information external to I.C.I. is the European Section. Its object is to study industrial, commercial and economic developments in Europe. It draws extensively on published information, but incorporates also in its records much information flowing into the Company in the form of reports by I.C.I. staff visiting European countries, of correspondence or of notes on interviews with European visitors. It is a relatively new section still in course of building up its records, a slow process which is essential before the Section can reach maturity and provide its full service to the Company.

The Statistics Section is the main source of world trade statistics in the Company, and it conducts an extensive export trade to the Divisions in this, to some people, "dry-as-dust" commodity. It also keeps, and can supply on demand, a wide range of other economic and industrial statistics. Like the European Section, it also has an "internal" interest; for it is a focal point for the collection and compilation of a limited range of I.C.I. statistics, some of which are supplied to Government Departments, for instance for the periodic Ministry of Labour wage enquiries and the Board of Trade Index of Production.

"Baby" of the department, in length of existence if not in size and importance, is the Technical Index. Set up some three years ago, its purpose was to provide information in the form of abstracts, primarily for the use of engineers throughout I.C.I. Thus it is an exception to two generalisations made above: first, it is essentially technical; second, it is essentially for use by the Divisions rather than by Head Office. As was to be expected, the Section encountered certain teething troubles, but it is gradually finding its way to the provision of a centralised technical index which will supplement, but not replace, the services already existing in the Divisions.

The importance of an Intelligence Service in industry is now well recognised, and increasing specialisation constantly gives rise to the growth of new intelligence units. In I.C.I. such new units have developed since the war in the Sales Regions and on the commercial side in the Divisions.

All I.C.I. Intelligence units, both old and new, have much in common. Even if the fields in which they work are different, their general methods and the tools they use are broadly similar. Day-to-day contact, of course, takes place and does much to secure mutual help and to avoid overlapping. This contact is supplemented by an annual Intelligence Services Conference,

at which subjects of common interest are discussed. From time to time, as a result of this voluntary co-operation, the need is shown for some centralised action. When that occurs the Head Office Intelligence Department, by common consent, usually acts as the focal point.

ANCIENT CRAFTS TODAY

It is often said of a man that he is a craftsman at his work; but the term is properly applied to those who practice certain trades, many of which are very ancient. In its different manufacturing Divisions I.C.I. employs numerous craftsmen, and although in some cases their technique has been modified by the introduction of improved tools and machinery, the essential craft as represented by the handiwork of the man remains the same. So it is that, as this note shows, some ancient crafts still flourish in modern industry.

The dictionary defines craft as meaning "skill" or "cunning," and a craftsman may be described as one who, by specialisation, long practice and knowledge passed down from a long line of predecessors, has acquired that very special skill or cunning which marks his work as that of an artist—craftsmanship.

Blacksmith, cooper, glassblower, potter, carpenter—these are but a few examples of true craftsmen, whose handiwork has been recognised since the earliest times as demanding that particular skill and knowledge which distinguish a craft.

Many ancient crafts are still practised today, and despite the tremendous changes and improvements introduced into industry by mechanisation and the application of new sources of power, a number of craftsmen are still employing their particular skill side by side with modern machinery and methods; and there are many cases in which the machine cannot compete with the handwork of the craftsman.

Most I.C.I. Divisions employ blacksmiths. Various departments are continually calling for repairs or new parts which can only be made by the smith, although the requirements of a modern chemical plant are very different from those demanded of Longfellow's Village Blacksmith. Nevertheless the old craftsmanship is still there, and although the smith of today may use a compressed-air blower or an electrically operated fan in place of the familiar bellows, the final fashioning of a piece of metal is still dependent upon his "strong and sinewy arms."

The smiths of Dyestuffs Division, for example, are employed on small hand and machine forgings as well as in making brackets, hooks, fasteners, and so on. From tool steel bars they fashion chisels, spikes and crowbars, and they also do open-hearth fire welding in cases where oxy-acetylene and electric welding are not practicable.

At Billingham the smithy has grown from the small corrugated-sheet cabin of 1921 to a fine workshop, equipped with power hammers, power blast, and a flame-cutting machine which enable the smiths to undertake a wide variety of work. The Billingham smithy makes a very large contribution to the supply of tools for the factory as well as producing a tremendous assortment of essential springs. A fairly constant number of factory maintenance orders is dealt with every day, while another aspect of the work of the Billingham smithy is the fabrication of a great deal of material for safety projects.

The craft of the cooper is one of the oldest. It is known that coopers were employed in ancient Rome, and probably there were coopers long before recorded history. The art of cooperage is highly skilled and is often passed down from father to son for generations. The cooper's job is to make casks, although there are at least three branches of the craft—the "wet" cooper, who makes casks for holding liquids, the "dry" cooper, whose casks are used for dry goods, and the "white" cooper who makes such vessels as churns, bowls and washing tubs. Wet casks are manufactured from staves of a particular wood (Memel oak, shipped from the port of that name, or American

white oak). The cooper uses special tools which have names with an almost medieval flavour such as "chive," "croze," "topping plane" and "insole," and it is in the handling of these tools that the cooper displays his craft. Coopers are employed in a number of I.C.I. Divisions in making and repairing casks, large numbers of which are used for the carriage and storage of the Company's products.

The craft of glassblowing is known to have been in existence in Egypt more than 4000 years ago. Today, glassblowers are employed in several Divisions, including Billingham, Alkali, Dyestuffs and Plastics. Most of their very skilled work is in making and repairing specialised laboratory apparatus, work which cannot always be done by blowing machines.

The crafts of the carpenter and joiner are closely allied; technically, a carpenter is one who works on ship- or house-building, whereas the joiner makes furniture and fittings and other woodwork of a light nature. I.C.I. employs carpenters and joiners, both for building construction and repairs, and for making such essentials to chemical plant as wooden fume ducts, covers for vats, and the press-plates used in the large filter-presses of Dyestuffs Division.

In the Stourport factory of Steatite and Porcelain Products Ltd.—a subsidiary company of I.C.I.—the ancient craft of the potter is still practised. This company produces ceramic products, including large insulators for electrical installations, and these are shaped on a potter's wheel. As many as five "throwers"—as the craftsmen are called—work at the same wheel.

A remarkable instance of the practice of the art of metallurgy as distinct from the science of metallurgy in modern industry is that of the fabrication of copper "pans," "teaches" or "raised bottoms" used in varnish-making and in the sugar-refining, brewing and similar industries. Records of the early history of this ancient craft are very scarce, but there is no doubt that the birth and growth of the manufacture of copper pans from one piece of metal took place in South Wales and at the present time is solely carried on in that district in the Metals Division factory at Landore in South Wales. As an example of this kind of work, it may be mentioned that in 1948 Landore Works produced the biggest copper pan ever made in one piece. Its final weight was 2½ tons, and it was 12 feet 4¾ inches across and just over four feet deep.

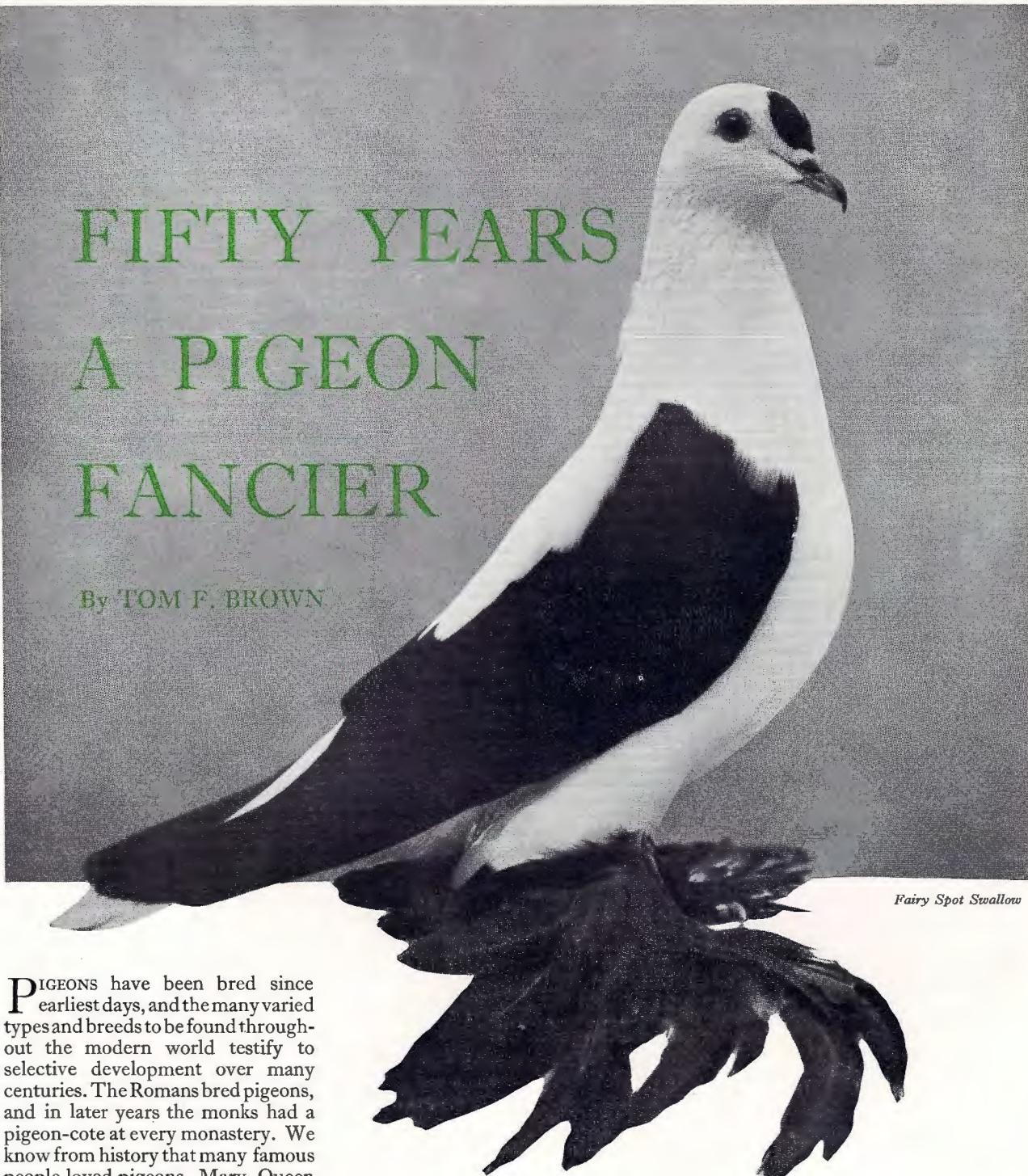
The ancient craft of patternmaking plays an important part in the chemical industry. Indeed, it might be said that no plant in a modern chemical works could be created without an extensive use of patternmaking, because in no other way could various types of castings in many different metals, moulded and cast from pattern, be so satisfactorily produced.

The production of ordinary castings involves three distinct operations. First, a form very nearly like that required in the casting is made of wood or some other easily shaped material, and is called the pattern. Next, from this pattern a mould is made in sand or in some other substance that will withstand the action of molten metal. Lastly, the metal is melted and poured into this mould. Each of these operations requires a special skill and has given rise to special trades, though the moulding and founding are often performed by the same person.

These operations are sometimes so intricate and admit of so much variety that the above statements are true only in the main. The moulder may make his own pattern out of clay or, if it should be necessary to use it many times, he will make it of some hard metal; or he may make the mould itself, or a portion of it, of metal and so on through a multiplicity of changes that constantly occur where it is necessary to produce a variety of castings. Nevertheless the main facts hold, and the patternmaker is understood to be a woodworker, the moulder is one who makes the moulds, while the founder has charge of the furnace and melts and pours the metals. In the first of these operations, that of the patternmaker, there is needed a great degree of skill in the arts of cabinetmaking and of wood-turning, for patternmaking consists largely of fitting joints and making circular forms; consequently the patternmaker must be familiar with the use of the tools of these trades.

FIFTY YEARS A PIGEON FANCIER

By TOM F. BROWN



Fairy Spot Swallow

PIGEONS have been bred since earliest days, and the many varied types and breeds to be found throughout the modern world testify to selective development over many centuries. The Romans bred pigeons, and in later years the monks had a pigeon-cote at every monastery. We know from history that many famous people loved pigeons. Mary, Queen of Scots, had Barbs; Queen Victoria favoured Jacobins; and at the present time the King has his Racing Homers.

Today the pigeon is a bond of friendship the world over, and in this hobby there is no class—the poorest man can possess the most valuable pigeon, and, since he is a pigeon-lover, his poverty is preferable to the money such a specimen could procure.

Strange as it may seem, no matter how many pigeons have been kept, no matter how many years the fancier has spent among them, the most cherished memories are

invariably those of the first loft. I started to keep pigeons fifty years ago. There had been pigeons in the loft over the old workshop for many years, but this was forbidden ground for one of my tender age, and so a loft was built for me in the garden and my first pigeons installed there.

They were indeed a very mixed lot, consisting of one each of the following: Magpie, Norwich Cropper, Baldhead Tumbler, Turbit and Satinette; and they were obtained at very small cost at a pigeon show in Ayr

where a "gift" class was being auctioned. All else was forgotten in the excitement of these arrivals. In those days every boy kept small livestock, and in our neighbourhood all along the row of large, old-fashioned gardens were pigeon lofts, rabbit hutches, bantam pens and hen runs. Even outside coal cellars and wash-houses were used as dovecotes.

There was little money among us—what could be done with the Saturday penny? Yet that did not in any way prevent much exchange of stock, and the "stock exchange" was always busy bartering rabbits for pigeons, pigeons for bantams, and sometimes pigeons for a mongrel pup. Does such completely innocent pleasure exist today in this supposedly more advanced age? The whole of our spare time, apart from football or marbles, was spent with livestock, and in every garden could be found groups of boys arguing animatedly on the merits of their respective pets.

One little pigeon anecdote—true, too—always remains in my memory. As boys we would congregate at various recognised rendezvous, one of which was not far from the old schoolmaster's house. One evening as he passed the line of boys the old dominie, in response to the respectful doffing of caps, kept repeating "'do, 'do, 'do, 'do.'" A wag in the group audibly remarked, "Och awa' Andra Black's got better doos than you."

Sometimes our pigeons were of doubtful origin. On the Abbey steeple and in the station goods shed were countless stray pigeons, and many a night raid was made on these places and the birds smuggled home. Even the parish church manse was not immune, and this was reckoned the very height of adventure. The Minister had scores of pigeons, the envy of every lad who saw them. There were black, white, red and yellow Tumblers, all colours of Jacobins, Nuns, Turbits, Homers and of course mongrels. Perhaps His Reverence missed some of them from time to time, but he asked no questions, and those raids were too dangerous to be frequent.

In those days pigeons were easily kept and feeding was cheap. Maize and wheat could be had for less than 4s. a bag, while maple peas (now costing about £4) were about 8s. a bag. Then, with the passing of time and frequent visits to shows under paternal care, I began to have ambitions for something better than just a few ordinary pigeons. By now I had a huge collection in the garden lofts. Many breeds had been tried: Pouters, Jacobins, Oriental Frills, Nuns, Satinettes, Blondinettes, White Homers, Cumulets, all colours of Magpies and Tumblers, and (the delight of most observers) Flying Roller Tumblers. Gradually the number of breeds kept was

reduced and those more difficult to rear were discarded, which left chiefly Magpies, Tumblers, Rollers, and a few pet Turbits. Even this was not good enough, and I desired better stock. Prices for good pigeons ranged from about 5s. to 30s., and as I earned more money I bought new stock with a view to showing.

Red and white Self-tumblers, red and yellow Magpies, black and red Turbits and Rollers were the chosen breeds, but eventually the choice narrowed itself down to Baldhead Tumblers and Rollers, and these are still what I am breeding and showing successfully. A large number of breeds in the hands of one fancier simply means he cannot hope to become proficient in the progress of any of them unless he has unlimited means and can keep men to look after them. The ordinary fancier cannot afford this, nor is there any great personal pride in having pigeons kept in this way.

At the present time, of course, pigeon-keeping is under a heavy cloud. Many local authorities forbid the building of lofts in the gardens of council houses, and this has meant that boys are unable to indulge in the hobby at an age when they are most easily impressed. Another consideration is the scarcity and price of grain. Even the most hardened fanciers have had to cut down and in some cases entirely give up because of this shortage.

You may ask: But if I should want to take up pigeons, what would be the best breed to keep? That can only be answered by yourself. You must first visit the shows and talk to fanciers who, naturally, will dilate at great length on the beauty, the excellence and the thrill of their own particular breed. The novice at a show will not find it an easy matter to choose, as almost every pigeon has its own kind of appeal. Fortunately, as in all things, we are all of different minds and thus we have an almost unbelievable variety of pigeons. It may astound the uninitiated to know that in Modenas alone there are



T. F. Brown showing off a bird's wing span



Black Beard Tumbler Cock



A typical show racer



Satinette



Genuine Homer



Mealie Baldhead Tumbler



Undefeated show Roller Tumbler



Black Nun



Winning Roller Tumbler

over 500 different colourings and markings all definitely standardised.

Pigeons can be classified into a few groups: Blowers, Tumbler Breeds, Frills, Jacobins, Fantails, Modenas and general. A detailed description is impracticable, but there is a further division into long-faced or short-faced breeds, and the former predominate. Long-faced pigeons can rear their own young; but short-faced breeds usually require foster-parents, which adds considerably to the difficulties of the small fancier.

And why do we keep pigeons? Is there something to be gained besides the mere pleasure of having them in the garden and being able to spend leisure hours in their company? Most men find this a satisfaction in itself, but many others have an insatiable desire to be always on the search for the essence of perfection. It is to satisfy these men that we have the recognised shows and competitions—shows which are indeed the pulse of the pigeon fancier.

It is many years since I started showing, and I shall always remember the judge telling me quite frankly: "Don't waste your money like that, these are all wrong!" I set out to find out just what was wrong and how to rectify it. In two years I won a cup and special prize for the best Roller at the Crystal Palace. That success is ample proof to all beginners that everyone has an equal chance to reach the honours list.

Exhibitions and shows yield an interest which is food and drink to the breeder of fancy pigeons just as racing is to the Homer fancier. The winter shows are the

culmination of the season's work, and it is their thrill and interest that make the summer months with the breeding a period of pleasant anticipation. Rules for shows are easy. Almost every breed of pigeons has its club which is managed by the fanciers themselves. To each breed is given a definite standard towards which the individual breeder strives, and naturally the nearer he gets to this standard the more honours will his pigeons win. Of course, many people look upon the fancier as eccentric in some way, but only those who have kept pigeons can realise just how such a hobby gives many hours of peaceful relaxation and pleasant interest.

Show birds are not allowed to breed late into the season, because an easy and early moult is essential for good feather quality. A few weeks before the show season begins, penning is more frequent to make the pigeons tamer. It is astonishing how they learn to obey the promptings of their master, and pose and strut when touched with a judging stick. In this way a pigeon may make a big start over a more wilful bird when the points are being allocated.

There are also certain things the fancier may do to bring the markings and plumage of the pigeon nearer to perfection, such as trimming irregular lines of demarcation on baldhead tumblers, nuns and magpies, or extracting odd off-coloured body feathers (but not wing primaries or main tail feathers, although the tail of the fantail usually requires a great deal of careful attention). This permitted help must not be overdone or it comes under the category of faking—a crime in

the eyes of good fanciers and judges alike—which, if suspected of being deliberate, may end in complete suspension from all future shows.

In well-organised shows no one is allowed within speaking distance of the judge as he works. Every bird is carefully examined, some by handling, others in walking pens where such breeds as Fantails, Pouters or Jacobins must show their poise just as mannequins do in a fashion parade. During such crucial moments the training at home comes into full play, and a judge has little mercy for birds which are wild, which crouch when they should stand up boldly, or which prove by their behaviour that they lack the character of a good show pigeon. Owners who are present are oblivious of everything but the judging, and the tenseness of the real pigeon man must be seen to be believed.

To him, for the time being, only one thing matters—that bunch of feathers the judge is so confoundedly keen on faulting. What a rogue the judge is! Why will he persist in noticing that slope at the back of the skull, that rather coarse cere on the left eye, or that ever so slight stain on the beak? To the excited owner these faults seem to be standing out in bold relief, whereas if he kept his mind easy he would realise that at first the judge is not looking for faults but only for the good points which can bring the pigeon into the honours class.

Only a few are optimists, and the worst is feared. And after all this is exactly what showing means. Without competition men could never know their progress relative to others, and the results of the show season are guides to future breeding plans. It is true that some fanciers make their success at shows in financial terms, as a winning stud can be the means of very lucrative sales, but the majority are real hobbyists whose pride lies in possession rather than in selling. Incidentally, £100 for a leading winner is not an unknown figure, and many good pigeons change hands at shows every year at prices ranging from £40 upwards.

What of the pigeon itself? Generally speaking, show pigeons inherit a docility and tameness which make them easier to train than the ordinary pigeon, but much depends on the owner during the early months of the pigeon's life. Just as police horses must be trained for crowds, noises and jostling, so must show pigeons be trained to pens, to people poking at them, to judges handling them, and to all the many other distractions of the show room. Who fails to be impressed when a Fantail throws its head back and struts proudly, or a Pouter blows its crop to its fullest extent and teeters on its toes, or the loving Oriental comes sidling up to be stroked when the owner or judge softly coos to it?

Even if you are not a fancier, a pigeon show can still be a source of interest and delight.



The popularity of pigeons in earlier days is evident from many Cotswold barns

